RELATIONSHIPS AMONG COLLEGE SUCCESS AND STUDENT WORKING STATUS

by

Deanna Walerius

Middle Tennessee State University

A Thesis Presented to

the Graduate Faculty

in Partial Fulfillment of the Requirements for the Degree in

Masters of Arts in Psychology

May 2017

Thesis Committee: Dr. James O. Rust, Chair

Dr. Seth Marshall

Dr. Monica Wallace

ABSTRACT

The current thesis posited that increased hours worked while attending Middle Tennessee State University would negatively relate to measures of college success including grade point average (GPA) and 1-year attrition. Other variables predicted to be negatively correlated with hours worked were self-reported hours preparing for class, credit hour efficiency (credit hours earned divided by number of hours attempted), and receiving financial aid assistance. Only a single hypothesis found significant results. For Hypothesis 3, I found a significant inverse correlation between off-campus hours worked and credit hour efficiency. Surprisingly, on-campus work was positively related to credit hour efficiency. Thus, for one hypothesis on-campus vs. off-campus work determined whether there was a positive or negative relationship with an important measure of college success. The remaining hypotheses looked at relationships between hours worked and grade point averages, hours spent preparing for class, receiving financial aid, student attrition, class level (freshman/senior) and gender. All of these relationships were insignificant.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

This thesis looks at working status with particular emphasis on how it may correlate with measures of success among college students. After a literature review, I supplied explanations of my proposed hypotheses, procedures, and methods. When I started this project, the main goal of my thesis was to point out the underappreciated correlations of employment and academic success for college students.

Importance of Working Correlated with College Success

Universities receive funding from the government based on specific criteria. One of these factors is retention. In Tennessee, one of the performance indicators used to determine state funding is degrees awarded per 100 students. In judging a successful college, adults over 25 and those classified as low income are weighted more heavily than younger middle-income peers (National Conference of State Legislatures, 2015). Thus funding provides one reason that colleges in Tennessee try to keep students enrolled and actively pursuing higher education degrees. (The word usage of '*college*' or '*university*' follows the wording used by the different resources utilized in this study.)

There are many factors that could be studied in regards to how they relate to the retention of university students. Previous studies of college retention include job status and hours worked as factors predicting retention (Carpenter & Ramirez, 2012; Martin, 2012). Some studies have called for more research on the myriad of possible explanations that link employment status of students and success in higher education (Aper, 1994; Kirby & McElroy, 2003; Miller, Danner, & Staten, 2008). The current study focuses on the relationships between employment status (part time, full time, and

not employed as well as on campus versus off campus jobs) with hours reported spent preparing for class per week, credit hour efficiency (credit hours earned divided by number of hours attempted), financial aid assistance obtained by students, grade point average (GPA), and retention (1-year attrition). I also include variables such as gender and race because they are known to be important correlates of college success (Kalil & Wightman, 2011; Martin, 2012).

Working in America

The United States Department of Labor (United States Department of Labor, 2015) has investigated the enrollment and employment status of recent high school graduates. The data for recent high school graduates showed that 34.8% of recent high school graduates who are attending college full time also have a job. The labor rate for recent high school graduates who were part time college students was 75.2%. Thus, there is a stark difference in employment rates between part-time and full-time students. When the United States Department of Labor studied all college students and not just recent high school graduates (United States Department of Labor, 2015), the numbers of employed students jumped by approximately 10 % for all groups of students, with 44.7 % and 85.7% of full-time students and part-time students employed, respectively. This approximate 10% increase shows that older students are involved in the work force even more than their younger, recent high-school graduate college classmates. This was also shown by Auers, Rostoks, and Smith (2007), who found that students in their study who were involved in the work force tended to be older, farther along in college, and much less likely to be receiving governmental aid through tuition scholarships or stipends for living expenses. Though these authors did go on to point out that year of study

(freshman, sophomore, junior, or senior) may be the factor that makes the biggest difference, as opposed to age. Auers and colleagues found a 5% increase in the probability of working for older students when compared with students 2 years younger. Additionally, students in their fourth year in college were approximately 24% more likely to be working than those in their second year.

It is interesting to note that the part time employment rate for college students was higher than the overall employment rate (part time and full time combined) for people of the same age not enrolled in school, 85.7 % and 78.9% respectively (United States Department of Labor, 2015). These same United States Department of Labor data also showed that students attending a 2-year school were employed at a much higher rate than those attending 4-year schools, 49.1 % vs. 31.6 %, respectively. Thus, there is a relationship between the level (2 year versus 4 year) of college attended and employment status.

Recent studies show that the rate of employment of those pursuing education is on a gentle slope up (Kirby & McElroy, 2003; Miller, et al., 2008; Warren & Cataldi, 2006). The bulk of the increase in student employment is among part time workers. Warren and Cataldi (2006) found that when people are combining school and work, they prioritize meeting the demands of their paid employment over their school assignments. These authors contrast the current college/work trend to the college/homemaking mindset from the past. These authors concluded that the difference between the two (college/work vs, college/homemaking) is a matter of emphasis and priorities. Their data were from the Department of Labor and the Department of Education's National Center for Education Statistics spanning the years of 1966 to 1997. Warren and Cataldi used a random draw of

students classified as sophomores and/or seniors. The study was particularly noteworthy because they utilized measures that included standard errors that were more reflective of the different sizes of the samples and not based solely on the sample populations themselves. This adjusted the samples drawn in order to account for overrepresentation of special populations within the different samples collected.

A student's working status also has well documented correlations with socioeconomic status. Martin (2012) showed in a study of college students, that middle and lower income groups work an average of 2-3 hr more each week than the higher income groups. Martin also showed that middle- and lower-income group members had part-time jobs more often than their higher-income schoolmates. Additionally, students from the lower-income group were significantly more likely to carry a full-time job than higher-income group students. Going further, the lower socioeconomic status students also reported that more than one third of the time commitments of their jobs interfered with available coursework and study time. This was significantly more interference with coursework and study time than reported by higher and middle income groups. Martin (2012) showed that middle and lower income groups reported lower degrees of campus satisfaction when they were holding jobs. However, interestingly, this lower level of campus satisfaction was not evident for the higher income group members who worked while in school. The authors speculated that their results could be explained by the fact that the higher income group members were likely to be working out of choice instead of out of necessity. Differences between working hours and college satisfaction across socioeconomic statuses emphasize the difference between having a job out of choice in order to pay for luxuries versus out of necessity to pay for living expenses and/or tuition.

Rate of Employment

Employment status (no job vs. part-time job vs. full-time job) is commonly referred to as hours worked per week (e.g., Warren and Cataldi, 2006). More employed students work part time (fewer than 20 hr per week) compared to full-time (more than or equal to 20 hr per week); (United States Department of Labor, 2015). Warren and Cataldi (2006) define full-time employment as intensive employment. Any hours worked exceeding 20 per week during the school year were classified as intensive employment or excessive work hours (Miller, et al., 2008; Warren & Cataldi, 2006). University students with a higher rate of employment (more than or equal to 20 hr per week) had a greater chance of dropping out of higher education during their first year at a university than those who work fewer hours or not at all (Martin, 2012). Similarly, the rate of employment also was correlated with higher dropout rates for high school students (Warren & Cataldi, 2006).

Miller et al. (2008) found that working was significantly related to grades among college students only when hr worked exceeded 20 per week. The students who worked full time were less than half as likely to have good grades (grade point average of B or better) when compared to those who were employed fewer than 10 hour per week or not at all, an alarming contrast. Students working full time were also 1.45 times more likely to have short sleep hours during the week (this was defined as fewer than 7 hr of sleep) when compared to their peers who worked fewer than 10 hr per week. The students who worked between 10 and 19 hr per week showed no significant differences in reported sleep patterns from their peers who worked fewer than 10 hr per week.

Hwang (2013) found that average grades based on percentage points were significantly negatively correlated with hours worked per week. For every hour students worked each week, their grades fell an average of 0.16 of a percentage point. This calculates to greater than 3 percentage points of lower grades (e.g., 85% to 82%) when a student worked part time during an average week, and could climb to as high as 6 percentage points of lower grades if the student worked full time.

Attendance Rates and Working Status

Research suggests that being a successful college student involves several factors. Chief among those are regular class attendance, good high school preparation, family support (financial and emotional), and intelligence (Martin, 2012). Of those factors, regular class attendance is the easiest to influence with college programs aimed at improving graduation rates (Kirby & McElroy, 2003). Across many studies looking into college success (i.e., grade point average, retention, and graduation rate), class attendance (lecture, lab, and tutorial depending on the study) has been a commonly measured variable. Auers et al. (2007) showed that working correlated with abbreviated study time, lower grades, and reduced attendance. Further, Auers et al. found that full-time workers (defined in their study as those working 30 hr or more per week) showed greater drops in both grades and attendance than part-time workers (defined in their study as those working 0 to 30 hr or more per week). Students who did not work were more likely to have fewer absence rates than their part time employed peers (22% of nonworking students had better attendance). This number almost doubled when comparing students who did not work with those who were employed full time (38% of nonworking students had better attendance). Thus working status was clearly linked to attendance rates.

Kirby and McElroy (2003) also found that hours worked were negatively related to lecture attendance rates. Working 18 hr per week correlated with attendance at lectures dropping by approximately 10% from the average of the sample as a whole. Kirby and McElroy found that among their above average attendees, attendance did not correlate with the probability of earning a passing grade. Also, a small positive effect on the probability of passing was found with increased attendance rates among the low attendees. When the Kirby and McElroy (2003) study controlled for attendance, there still was a significant relationship between hours worked and grades. They concluded that working status alone was related to grades. Kirby and McElroy (2003) stated that working students, even among those who regularly attend classes, did not have enough time to devote to studying because of commitments at work. Their findings generalized to both part-time and full-time employment. Auers et al. (2007) also concluded that important relationships between working and reduced study time were similar for part-time and full-time employment. The link between working status and attendance in the Kirby and McElroy's (2003) study was small, and therefore they concluded that attendance rates were not as significantly impacted as were grades while students were in the labor force. This is in stark contrast to Auers et al. (2007) as well as Devadoss and Foltz (1996) who all stated that the effect of work status is profound with regards to attendance rates.

Interestingly, Devadoss and Foltz (1996) added another important dimension to the study of college success and working status. They asked students whether they were self-supporting or not. They found that students supporting themselves through either working or obtaining substantial loans had higher attendance rates when compared to

those not supporting themselves. Similar to the previous studies, Devadoss and Foltz found that hours worked contributed negatively to a student's GPA regardless of attendance rates. Consistent with previous studies, Devadoss and Foltz also concluded that working students may not have sufficient study time.

The literature provides evidence of an inverse relationship between hours worked and grades regardless of attendance rates (Devadoss & Foltz, 1996; Kirby & McElroy, 2003). Researchers point to loss of personal study time as the main contributing factor to the harmful links between work and college success (Auers et al., 2007; Devadoss & Foltz, 1996; Kirby & McElroy, 2003). So, even though full-time employed students do not always show significant differences in their class attendance rates from their not-employed and part-time employed peers (Kirby & McElroy, 2003), there is a consistent negative relationship between hours worked and the academic success of students (Devadoss and Foltz, 1996; Kirby & McElroy, 2003; Miller et al., 2008). The studies cited here make the consistent point that work status has significant correlations with hours reported spent studying per week, grade point average, and retention. This being the case, working status is a key issue in college success, and these findings ought to be considered by college administrators, students, and potential students.

Grade Point Average

Auers et al. (2007) studied many factors including part-time work, full-time work, attendance, study time, and grade point average (GPA). They found that working status showed the highest correlation with the academic performance of students, which they measured by GPA. Students working full time showed significantly lower GPAs than their nonworking peers. Part-time students also showed differences, though less dramatic

and not always significant, from their nonworking peers. When Auers et al. (2007) controlled for attendance, study time, and scholarships earned, the negative correlations of full-time work with GPA were greatly diminished, and the negative correlations of part-time work with GPA were no longer significant. However, they noted that when they did not control for attendance, study time, and scholarships earned, even those working from 0 to 10 hr per week showed a significant negative correlation between hours worked and GPA. They concluded that work status impacts grades mostly through the effects of working on other variables, such as attendance and time spent studying.

School Involvement and Work Status

Carpenter and Ramirez (2012) showed that high school students who worked longer hours each week were less likely to pursue higher education compared to peers who worked less. Interestingly, the students in their study were from high-income families (third and fourth quartile socioeconomic status) and were therefore unlikely to be working out of financial need. Carpenter and Ramirez speculate that working more hours took these students out of a scholarly mindset and put them into an employment mindset. However, high school student involvement in school activities was positively related to higher postsecondary degree pursuance regardless of hours worked. This led these researchers to conclude that high school involvement is a key ingredient leading to academic success, at least for their high socioeconomic status sample.

Martin's (2012) study looked at socioeconomic status and found that participation differences in social activities (both recreational and campus involvement activities) were related to the work status and financial status of the sample. Martin showed that students coming from more financially stable homes spent more time with campus activities, both

recreationally (heart health) and socially (campus involvement). Interestingly, working students from the upper-income group in his study had high campus satisfaction rates, though the opposite was true for the middle- and lower-income groups. In other words, having a job resulted in lower campus satisfaction levels for working students in the middle- and lower-income groups, but this was not evident for the working students in the upper-income group. As the higher-income group was the only financial status grouping that did not show significant interactions between working and level of college satisfaction, this, again, leads to a distinction between working out of financial necessity versus working for spending money or to support social activities.

Aper (1994) found that students who either worked on campus or in an off-campus job related to their field of study reported higher estimates of involvement on campus compared to students who worked off campus at jobs unrelated to their college majors. Similarly, the students who either worked on campus or in an off-campus job related to their field of study also had significantly higher estimates of how much they gained from their college courses. Aper did find interesting differences in regards to if the work pursued was related to the field of study for the student or not. One example was that students working on campus in a job that was academic or related to career interests used the library significantly more than students working off campus or, interestingly, on campus in a job not academic or a job that was unrelated to career interests.

In summary, some researchers have concluded that school involvement suffers when students hold jobs, especially when working out of financial necessity (Aper, 1994; Martin, 2012). The impact of school involvement appears to be involved in the link

between college success and working (Carpenter & Ramirez, 2012). Being involved in school activities may help to negate some of the negative impacts of working while in school.

Race

Though I was not able to find studies that link working status and college success to race, there are studies that show a relationship between race and employment. Lang and Lehmann (2012) found an employment and unemployment gap existing between white and African-American adults. When comparing high school dropouts, African-American men worked approximately 80 % of their white male peers' work weeks. Conversely, Lang and Lehmann reported that white and African-American males who were college graduates showed no significant differences in the amount of weeks worked. The unemployment gap showed that the unemployment rate for African-American men was twice that of their matched white peers, 9.1 % and 4.5 % respectively. This gap declined when education levels increased and jobs required more extensive prior knowledge or training. It follows that the more African-American men who pursue higher education degrees leading to jobs requiring extensive knowledge can lead to a decline in the unemployment gap between African-American and white men.

Kalil and Wightman (2011) found that a parent's unemployment was correlated with their children's pursuance of higher education. The longer and more persistent the unemployment of the parents, the greater the chance that their offspring will not pursue higher education. They also found that an African-American parent was twice as likely to report long-term unemployment (6 months or more) than a white parent, a statistically significant difference with 32 % vs. 15 %. This long-term unemployment also had a

stronger correlation to future educational attainment for the African-American families involved in the study than the white families. There was a significant difference between African-American and white middle-class offspring pursuing a college degree when a parent had experienced job loss. White children's percentage drop for college pursuance was 9 %, while it was 25 % for African-American children. Therefore, a parent's unemployment status and duration can negatively correlate with their child's degree of higher education pursuance.

These studies taken together support the conclusion that although pursuing higher education can reduce the employment gap mentioned above, the working status of one's family also is related to the likelihood of a youngster pursuing a college education in the future. African-American and white family's differences in unemployment may be part of the reason that almost half of African-American offspring born in middle class families end up near the bottom of adult earning distributions, while only 16 % of white offspring from middle class families end up there (Kalil & Wightman, 2011).

Gender

Auers et al. (2007) showed that even though females made up a substantial portion of their college-student participants, they were under represented in the those involved in the work force. College women were approximately 17% less likely to be involved in the work force when compared to their male counterparts who were attending college. Also, of those women in the work force, they were approximately 10% less likely than males to be employed full time, which in their study was defined as 30 or more hours per week. Auers et al. (2007) also showed that women were 14% more likely

than men to have good attendance rates in their classes. They defined good attendance as attending 76% or more of classes.

Auers et al. (2007) found no significant difference in grades between married and single females. However, married males achieved significantly higher GPAs than their single male counterparts. Also, all of the married males in their sample were involved in the work force with 77% working full time. Conversely, only 47% of married females were working with 20% working full time. Based on the findings presented here, Auers et al. (2007) concluded that male students and students who are older tend to be among those who work while in school. The older students also tend to be working full time as opposed to part time.

Conclusion

There are numerous potential factors that contribute to college success. Among those investigated here are class attendance, grade point average, persistence, and graduation rates. The present thesis investigated how employment status is an important and complex correlate of college success as measured by GPA, 1-year attrition, reported hours per week preparing for class, credit hours earned divided by number of hours attempted, and receiving financial aid assistance. Demographic characteristics also were correlated with these measures of college success. Supplementary correlations were included in this study as well.

This study is different than those that have come before because it focuses solely on students studying psychology at Middle Tennessee State University. These data serve MTSU in understanding how these issues relate among their student body specifically,

which in turn may give MTSU faculty, staff, and students information necessary in order to better help their students succeed.

Purpose of the Current Study

It is important for universities to understand the potential correlations between student workforce participation with academic variables. Such understanding may assist with improving outcomes for students, such as higher graduation rates. The study intended to show quantitative differences in school performance via the hours reported preparing for class per week, grade point average, and retention of students when correlated with the work status. In doing so, the study may enhance the university's understanding of its diverse student body. Analyzing the correlates of student workload may lead to the university's ability to reorganize curricula or help establish community supports in order to better assist those who need to work while attending college.

Hypotheses

Hypothesis 1: Working status of students (1 = 0 hr per week, 2 = 1 to 5 hr per week, 3= 6 to 10 hr per week, 4 = 11 to 15 hr per week, 5 = 16 to 20 hr per week, 6 = 21 to 25 hr per week, 7 = 26 to 30 hr per week, and 8 = more than 30 hr per week) was expected to inversely correlate with measures of college success: cumulative GPA for the last reported term attended (numeric) and 1-year attrition (0 = returned and 1 = did not return).

Null Hypothesis 1: Working status of students was not significantly correlated with measures of college success.

The rationale behind this hypothesis was provided by a study by Martin (2012) showing that college students with higher rates of employment (more than or equal to 20

hr per week) had a greater chance of dropping out of higher education during their first year enrolled than those who worked fewer hours or not at all. The rationale for Hypothesis 1 also was supported by Auers et al. (2007) who found that working status showed the highest correlation with the academic performance of students, which they measured by GPA.

Hypothesis 2: Working status of students (1 = 0 hr per week, 2 = 1 to 5 hr per week, 3= 6 to 10 hr per week, 4 = 11 to 15 hr per week, 5 = 16 to 20 hr per week, 6 = 21 to 25 hr per week, 7 = 26 to 30 hr per week, and 8 = more than 30 hr per week) was expected to inversely correlate with the reported hours per week preparing for class (1 = 0 hour per week, 2 = 1 to 5 hour per week, 3= 6 to 10 hour per week, 4 = 11 to 15 hour per week, 5 = 16 to 20 hour per week, 6 = 21 to 25 hour per week, 7 = 26 to 30 hour per week, and 8 = more than 30 hour per week).

Null Hypothesis 2: Working status of students was not significantly correlated with the hours per week reported preparing for class.

The rationale behind this hypothesis was supported by Auers et al. (2007); Devadoss and Foltz (1996); and Kirby and McElroy (2003) who point to loss of personal study time as the main contributing factor to the harmful correlates of work and college success.

Hypothesis 3: Working status of students (1 = 0 hr per week, 2 = 1 to 5 hr per week, 3= 6 to 10 hr per week, 4 = 11 to 15 hr per week, 5 = 16 to 20 hr per week, 6 = 21 to 25 hr per week, 7 = 26 to 30 hr per week, and 8 = more than 30 hr per week) was expected to inversely correlate with credit hour efficiency (credit hours earned divided by number of hours attempted).

Null Hypothesis 3: Working status of students was not significantly correlated with credit hour efficiency (credit hours earned divided by number of hours attempted).

The rationale behind this hypothesis was provided by Martin (2012) who showed that college students with a higher rate of employment (more than or equal to 20 hr per week) had a greater chance of dropping out of higher education during their first year at a university than those who work fewer hours or not at all.

Hypothesis 4: Working status of students (1 = 0 hr per week, 2 = 1 to 5 hr per week, 3= 6 to 10 hr per week, 4 = 11 to 15 hr per week, 5 = 16 to 20 hr per week, 6 = 21 to 25 hr per week, 7 = 26 to 30 hr per week, and 8 = more than 30 hr per week) was expected to inversely correlate with receiving financial aid assistance (0 = no and 1 = yes).

Null Hypothesis 4: Working status of students was not significantly correlated with receiving financial aid assistance.

The rationale behind this hypothesis was supported by Auers et al. (2007) who found that students in their study who were involved in the work force tended to be older, farther along in college, and much less likely to be receiving governmental aid through tuition scholarships or stipends for living expenses.

Hypothesis 5: Working status of students (1 = 0 hr per week, 2 = 1 to 5 hr per week, 3= 6 to 10 hr per week, 4 = 11 to 15 hr per week, 5 = 16 to 20 hr per week, 6 = 21 to 25 hr per week, 7 = 26 to 30 hr per week, and 8 = more than 30 hr per week) was expected to inversely correlate with institution-reported class level (1 = first-time freshman and 4 = senior).

Null Hypothesis 5: Working status of students was not significantly correlated with institution-reported class level.

The rationale behind this hypothesis was provided by Auers et al. (2007) who found that students in their study who were involved in the work force tended to be older, farther along in college, and much less likely to be receiving governmental aid through tuition scholarships or stipends for living expenses.

Hypothesis 6: Female students were expected to work significantly fewer hours per week than their male student counterparts.

Null Hypothesis 6: There was no significant difference in work hours between female and male students.

The rationale behind this hypothesis was supported by Auers et al. (2007) who showed that college women were approximately 17% less likely to be involved in the work force when compared to their male counterparts who were attending college.

Supplementary Hypothesis: Statistics were also computed to determine if demographic variables of race (white and African American) and gender (male or female) correlated with measures of academic success (GPA, 1-year attrition, hours spent preparing for class per week, credit hours earned divided by credit hours attempted, and financial aid assistance). A complete intercorrelational analysis of all variables in the data set was also computed.

CHAPTER II

METHOD

Participants

Participants included in this study were 128 first-year students and senior psychology majors from Middle Tennessee State University (MTSU) from the years of 2008, 2009, 2011, and 2014. There was 45 first-time freshmen (35.2%) and 83 seniors (64.8%). Six participants were excluded because they were classified as sophomores or juniors. There were 93 female (72.7%) and 35 male (27.3%) students involved in this study. There were 105 participants who identified as white (82%) and 18 participants who identified as Black or African American (14.1%). Those that were identified under Race as Not Specified, American Indian, Hispanic, Two or More Races, and Asian were excluded from statistics computed involving that category because those groups had three or fewer participants. Any participant who did not answer a question on the questionnaire was labeled with *NULL* on the dataset for that category and therefore was excluded from that portion of the statistical analyses. Personally identifying information had been deleted from the data included in this study.

Design

This study looked at statistics involving the correlations of hours worked per week in relation to measures of college success (cumulative GPA for the last reported term attended and 1-year attrition). Other variables included in correlations were credit hour efficiency (credit hours earned divided by number of hours attempted), amount of time preparing for class per week, and financial aid assistance. The hypotheses looking into gender and race were assessed by utilizing independent sample *t* tests.

Supplementary analyses were conducted using correlations. Hypotheses 1 through 5 and the second supplementary hypothesis were tested with Pearson's *r* and Spearman's *rho* correlations. Independent samples *t*-tests were utilized for Hypothesis 6 and for the variables in the supplemental hypothesis that were numerical. Pearson's Chi-Square tests were used for the variables in the first supplementary hypothesis that were dichotomous. The .05 level of significance was utilized for this study. Hypotheses 1 through 5 used a one-tailed test of significance. Hypothesis 6 and the supplementary hypothesis used two-tailed tests of significance.

Procedure

I received approval from MTSU and the Psychology Department to use psychology student data collected for the university from the years of 2008-2014. MTSU opted to participate in The National Survey of Student Engagement (NSSE). The data were collected for MTSU by the NSSE in order to assess retention and graduation of students. All of the data were collected using the on-line NSSE questionnaires. MTSU sent student email addresses to the NSSE who then contacted students via email about completing their survey. Those who participated are included in this dataset. The Office of Institutional Effectiveness, Planning, and Research (IEPR) compiled the student data after receiving a data request form from the Psychology Department at MTSU. I received the data including official grade point averages (GPAs) calculated by the IEPR office on March 20, 2015. The Instructional Review Board (IRB) approved design, procedures, and materials involved in the current study (see Appendix A for the letter of approval).

Materials

In the current study, student information data from past Middle Tennessee State University students were analyzed using SPSS software. Correlations were calculated for working status in relation to other variables. Correlations including all variables were computed last. An alpha level of .05 or lower indicated significance in the correlations. Correlations were analyzed for Hypotheses 1 through 5 as well as part of the supplementary hypothesis using Pearson's *r* and Spearman's *Rho*. Independent samples *t*-tests were used to analyze Hypothesis 6 and part of the supplementary hypothesis. Pearson's Chi-Square was also used to assess the dichotomous variable in the supplementary hypothesis.

The National Survey of Student Engagement (NSSE) utilized for this study is registered with a copyright belonging to Indiana University. A sample of the survey may be viewed online at the following website: <nsse.iub.edu/html/survey_instruments.cfm>.

CHAPTER III

RESULTS

Descriptive Statistics

Variables included in the study are described in detail below. Grouping variables include hours worked per week on-campus, hours worked per week off campus, hours combined for work per week including both on and off campus, and hours spent per week preparing for class. The five dichotomous variables included in the study were 1-year attrition, receiving financial aid, class level, sex, and gender. Numerical values were used for cumulative grade point average (GPA) and credit-hour efficiency. See Table 1 for a complete description. The mean and standard deviation for the variables included in the study are reported in Table 2.

Table 1

Variable Table

Variable	Description	Range
Work on campus	Hours per week worked at an on campus job for pay	1 = 0 hr per week, 2 = 1 to 5 hr per week, 3= 6 to 10 hr per week, 4 = 11 to 15 hr per week, 5 = 16 to 20 hr per week, 6 = 21 to 25 hr per week, 7 = 26 to 30 hr per week, and 8 = more than 30 hr per week
Work off campus	Hours per week worked at an off campus job for pay	1 = 0 hr per week, 2 = 1 to 5 hr per week, 3= 6 to 10 hr per week, 4 = 11 to 15 hr per week, 5 = 16 to 20 hr per week, 6 = 21 to 25 hr per week, 7 = 26 to 30 hr per week, and 8 = more than 30 hr per week

Table 1 (continued)

Variable	Description	Range
Work on and off campus combined	Hours per week combined for work on and off-campus for pay	1 = 0 hr per week, 2 = 1 to 5 hr per week, 3= 6 to 10 hr per week, 4 = 11 to 15 hr per week, 5 = 16 to 20 hr per week, 6 = 21 to 25 hr per week, 7 = 26 to 30 hr per week, and 8 = more than 30 hr per week
Preparing for class	Hours per week preparing for class including studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities	1 = 0 hr per week, 2 = 1 to 5 hr per week, 3= 6 to 10 hr per week, 4 = 11 to 15 hr per week, 5 = 16 to 20 hr per week, 6 = 21 to 25 hr per week, 7 = 26 to 30 hr per week, and 8 = more than 30 hr per week
1-year attrition	1-year attrition based on fall preceding NSSE and the fall following NSSE	0 = Returned, 1 = Did not Return
Receiving financial aid	Indicate if student ever received a scholarship, grant, or other financial aid assistance (Pell, Athletic Aid, Work Scholarship, subsidized loan, etc.)	0 = No, 1 = Yes
Class level	Institution-reported class level	1 = First-time Freshman, 4 = Senior
Sex	Sex of student	0 = Female, 1 = Male
Race	Race/ethnicity of student	1 = White, 2 = African American
Cumulative GPA	Cumulative GPA for the last reported term attended	Numeric: 0 to 4
Credit hour efficiency	Total number of hours earned divide by total number of hours attempted	Numeric: 0 to 1

Table 2

Demographics Table

Variables	*M*	*SD*
1-year attrition	0.05	0.21
Financial Aid	0.83	0.38
Preparing for Class	3.86	1.50
Work on campus	1.42	1.18
Work off campus	4.11	2.74
Work on and off campus combined	5.50	2.67
Credit hour efficiency	0.90	0.11
Cumulative GPA	3.07	0.57
Class Level	2.95	1.44

Hypotheses

Hypothesis 1

Hypothesis 1 was assessed by examining the presence of significant inverse relationships between student work variables and GPA or 1-year attrition. Pearson *r* correlations showed that no significant correlation existed between the three work variables (work on campus, work off campus, and work on and off campus combined) and cumulative GPA or 1-year attrition. Spearman's *Rho* correlations showed that no significant correlations existed between any work variable (work on campus, work off campus, and work on and off campus combined) and 1-year attrition. Spearman's *Rho* correlations also showed that no significant correlations existed between work off campus or work on and off campus combined and cumulative GPA. However, Spearman's *Rho* correlations showed a significant positive correlation coefficient between work on-campus and cumulative GPA, $\rho = .170$, $p = .031$. Since the only significant correlation found was not an inverse correlation, Hypothesis 1 was not supported. The null hypothesis was not supported because a significant correlation was found.

Hypothesis 2

Hypothesis 2 was assessed by examining the presence of significant inverse relationships between student work variables (work on campus, work off campus, and work on and off campus combined) and hours per week preparing for class. Pearson *r* correlations and Spearman's *Rho* correlations for Hypothesis 2 showed that no significant correlations for work off campus or work on and off campus combined and reported hours per week preparing for class. However, Pearson *r* correlations did show a

significant positive correlation coefficient between work on campus and reported hours per week preparing for class, $r = .198$, $p = .015$. Likewise, Spearman's *Rho* correlations showed a significant positive correlation coefficient between work on campus and reported hours per week preparing for class, $\rho = .218$, $p = .008$. Since the only significant correlations found were not inverse correlations, Hypothesis 2 was not supported. The null hypothesis was not supported because a significant correlation was found.

Hypothesis 3

Hypothesis 3 was assessed by examining correlations between student work variables (work on campus, work off campus, and work on and off campus combined) and credit hour efficiency (credit hours earned divided by number of hours attempted). The Lee and Preacher (2013) method for comparing correlations demonstrated that the Spearman *Rho* correlation between work on campus and credit hour efficiency was $\rho = .194$, $p = .016$. The Spearman *Rho* correlation between work off campus and credit hour efficiency showed a significant inverse relationship, $\rho = -.156$, $p = .045$. When these two relationships were compared using the Lee and Preacher (2013) test, the Z score was 2.73, 2-tail $p = .0006$. That finding demonstrates a significant difference between these correlations. A similar conclusion was supported when Pearson correlations were compared ($p = .156$ vs. $p = -.139$; $Z = 2.26$; 2-tail $p = .022$). Thus the correlations are different for work on campus (positive ρ) or work off campus (negative ρ) and credit hour efficiency. The Lee and Preacher (2013) test allowed these comparisons. Although my original hypothesis was not supported, this finding allowed me to make a post hoc supplementary hypothesis that on campus work correlated differently with measures of

college success compared to off campus work. That post-hoc supplementary hypothesis was supported.

Pearson *r* correlations and Spearman's *Rho* correlations for Hypothesis 3 showed no significant difference between work on and off campus combined and credit hour efficiency (credit hours earned divided by number of hours attempted). As a significant negative correlation coefficient was found relating work off campus and credit hour efficiency using Spearman's *rho* correlations, Hypothesis 3 is partially supported. The null hypothesis was not supported because a significant correlation was found.

Hypothesis 4

Hypothesis 4 was assessed by examining the presence of significant inverse correlations between student work variables (work on campus, work off campus, and work on and off campus combined) and receiving financial aid assistance. Pearson *r* correlations and Spearman's *Rho* correlations for Hypothesis 4 showed no significant correlation between any work variable (work on campus, work off campus, and work on and off campus combined) and receiving financial aid. As significant inverse correlations between work variables (work on campus, work off campus, and work on and off campus combined) and receiving financial aid were not found, Hypothesis 4 was not supported. The null hypothesis was supported since no significant correlations were found.

Hypothesis 5

Hypothesis 5 was assessed by examining the presence of significant inverse correlations between student work variables (work on campus, work off campus, and work on and off campus combined) and class level. Pearson *r* correlations and

Spearman's *Rho* correlations showed no significant correlations between work on campus and class level. Pearson *r* correlations did show a significant positive correlation between work off campus and class level, $r = .171$, $p = .031$. Likewise, Spearman's *Rho* correlations showed a significant positive correlation between work off campus and class level, $\rho = .183$, $p = .023$. Additionally, Pearson *r* correlations showed a significant positive correlation between work on and off campus combined and class level, $r = .231$, $p = .005$. Spearman's *Rho* correlations also showed a significant positive correlation between work on and off campus combined and class level, $\rho = .244$, $p = .004$. As the only significant correlations found were not inverse correlations, Hypothesis 5 was not supported. The null hypothesis was not supported because a significant correlation was found.

Hypothesis 6

Hypothesis 6 was assessed by examining the presence of a significant difference between student work variables (work on campus, work off campus, and work on and off campus combined) for females or males with females working significantly fewer hours than their male counterparts. The independent samples *t* test executed for Hypothesis 6 showed no significant difference between gender and any work variable (work on campus, work off campus, and work on and off campus combined). As no significant difference was found, Hypothesis 6 was not supported. The null hypothesis was supported since no significant differences were found.

Supplementary Hypothesis

The supplementary hypothesis was assessed by examining the presence of a significant correlation between the demographic variables of race (White and African

American) and gender (male or female) with measures of academic success (GPA, 1-year attrition, hours spent preparing for class per week, credit hours earned divided by credit hours attempted, and financial aid assistance). No significant relationships were found between race and any of the measures of academic success. Likewise, no significant relationships were found between gender and credit hours earned divided by credit hours attempted, 1-year attrition, and financial aid assistance. The results of the *t* test indicated a significant difference between gender and GPA, t (126) = -2.11, p = 0.037, n = 128; the mean for males was 2.90 (0.64) and the mean for females was 3.14 (0.53). Also, the results of the *t* test indicated a significant difference between gender and hours spent preparing for class per week, t (119) = -2.26, p = 0.026, n = 121; the mean for males was 3.36 (1.19) and the mean for females was 4.05 (1.57).

Two complete correlations tables (see Tables 3 and 4) involving all the variables are included. Among those that are significant, I selected four that were particularly relevant for the present study. When I looked at receiving financial aid assistance (coded 0 for no assistance and 1 for assistance), Pearson's correlation showed a significant positive correlation with cumulative GPA for the last reported term attended, r = .194, p = .028. There was also a significant negative correlation between receiving financial aid assistance and institution-reported class level, r = -0.292, p = .001.

When I looked at reported hours per week preparing for class (categorical range 1 - 8), Pearson's correlation showed a significant positive correlation with work on campus, r = .198, p = .029. There was also a significant negative correlation between reported hours per week preparing for class and gender (coded 0 for females and 1 males), r = -0.203, p = .026.

When I looked at cumulative GPA for the last reported term attended, Pearson's correlation showed a significant correlation with institution-reported class level (coded 1 for freshman and 4 for senior), $r = .194$, $p = .028$. There was also a significant correlation between cumulative GPA for the last reported term attended and gender (coded 0 for females and 1 for males), $r = -0.185$, $p = .037$.

Table 3

Complete Correlations Table

Variables	Correlations	Attrition	Fin. Aid	Acad. Prep.	Work on	Work off	Work on and off
Attrition	Pearson Correlation	1	-.095	-.106	.012	.000	-.007
	Sig. (2-tailed)		.287	.246	.893	.997	.936
Fin. Aid	Pearson Correlation	-.095	1	.015	-.077	-.071	-.030
	Sig. (2-tailed)	.287		.868	.402	.442	.745
Acad. Prepared	Pearson Correlation	-.106	.015	1	.198*	-.032	-.116
	Sig. (2-tailed)	.246	.868		.029	.724	.206
Work on	Pearson Correlation	.012	-.077	.198*	1	.145	-.296**
	Sig. (2-tailed)	.893	.402	.029		.113	.001
Work off	Pearson Correlation	-.007	-.030	-.116	-.296**	.904**	1
	Sig. (2-tailed)	.936	.745	.206	.001	.000	
Work Status	Pearson Correlation	.000	-.071	-.032	.145	1	.904**
	Sig. (2-tailed)	.997	.442	.724	.113		.000
Credit-hour efficiency	Pearson Correlation	.037	.150	.070	.156	-.038	-.139
	Sig. (2-tailed)	.679	.091	.443	.087	.681	.131
Cumulative GPA	Pearson Correlation	-.047	.194*	.060	.096	.064	-.019
	Sig. (2-tailed)	.600	.028	.516	.295	.486	.836
Class Level	Pearson Correlation	-.224*	-.292**	.063	.087	.231*	.171
	Sig. (2-tailed)	.011	.001	.491	.340	.011	.062
Sex	Pearson Correlation	-.053	-.092	-.203*	-.046	-.010	.031
	Sig. (2-tailed)	.551	.301	.026	.617	.917	.734
Race	Pearson Correlation	.014	.074	.017	-.045	-.071	-.016
	Sig. (2-tailed)	.880	.426	.857	.638	.456	.864

Table 3 (continued)

Variables	Correlations	Credit hour efficiency	GPA	Class Rank	Sex	Race
Attrition	Pearson Correlation	.037	-.047	-.224*	-.053	.014
	Sig. (2-tailed)	.679	.600	.011	.551	.880
Fin. Aid	Pearson Correlation	.150	.194*	-.292**	-.092	.074
	Sig. (2-tailed)	.091	.028	.001	.301	.426
Acad. prepared	Pearson Correlation	.070	.060	.063	-.203*	.017
	Sig. (2-tailed)	.443	.516	.491	.026	.857
Work on	Pearson Correlation	.156	.096	.087	-.046	-.045
	Sig. (2-tailed)	.087	.295	.340	.617	.638
Work off	Pearson Correlation	-.139	-.019	.171	.031	-.016
	Sig. (2-tailed)	.131	.836	.062	.734	.864
Work On and Off	Pearson Correlation	-.038	.064	.231*	-.010	-.071
	Sig. (2-tailed)	.681	.486	.011	.917	.456
Credit hour efficiency	Pearson Correlation	1	.724**	.085	-.104	.073
	Sig. (2-tailed)		.000	.340	.243	.432
Cumulative GPA	Pearson Correlation	.724**	1	.194*	-.185*	-.150
	Sig. (2-tailed)	.000		.028	.037	.107
Class Level	Pearson Correlation	.085	.194*	1	.011	-.206*
	Sig. (2-tailed)	.340	.028		.900	.026
Sex	Pearson Correlation	-.104	-.185*	.011	1	.247**
	Sig. (2-tailed)	.243	.037	.900		.007
Race	Pearson Correlation	.073	-.150	-.206*	.247**	1
	Sig. (2-tailed)	.432	.107	.026	.007	

Table 4

Spearman's Rho Complete Correlations Table

Variables	Correlations	Attrition	Fin. Aid	Acad. Prep.	Work on	Work off	On / off
Attrition	Correlation	1.000	-.095	-.112	.044	-.004	.006
	Sig.		.287	.223	.633	.964	.947
	n	128	128	121	121	120	121
Fin. Aid	Correlation	-.095	1.000	.028	.005	-.051	-.106
	Sig.	.287		.757	.957	.583	.246
	n	128	128	121	121	120	121
Acad. prepared	Correlation	-.112	.028	1.000	.218*	-.132	-.071
	Sig.	.223	.757		.016	.150	.439
	n	121	121	121	121	120	121
Work on	Correlation	.044	.005	.218*	1.000	-.306**	.057
	Sig.	.633	.957	.016		.001	.536
	n	121	121	121	121	120	121
Work off	Correlation	-.004	-.051	-.132	-.306**	1.000	.911**
	Sig.	.964	.583	.150	.001		.000
	n	120	120	120	120	120	120
Work On and Off	Correlation	.006	-.106	-.071	.057	.911**	1.000
	Sig. (2-tailed)	.947	.246	.439	.536	.000	
	n	121	121	121	121	120	121
Credit-hour efficiency	Correlation	.207*	.178*	.091	.194*	-.156	-.090
	Sig. (2-tailed)	.019	.044	.324	.033	.089	.325
	n	128	128	121	121	120	121
Cum. GPA	Correlation	-.019	.252**	.055	.170	-.055	-.006
	Sig. (2-tailed)	.831	.004	.551	.063	.550	.945
	n	128	128	121	121	120	121
Class Level	Correlation	-.224*	-.292**	.039	.067	.183*	.244**
	Sig. (2-tailed)	.011	.001	.672	.467	.046	.007
	n	128	128	121	121	120	121
Sex	Correlation	-.053	-.092	-.198*	-.057	.042	.013
	Sig. (2-tailed)	.551	.301	.029	.534	.646	.890
	n	128	128	121	121	120	121
Race	Correlation	.014	.074	.065	.016	-.017	-.070
	Sig. (2-tailed)	.880	.426	.496	.867	.860	.464
	n	117	117	112	112	111	112

Table 4 (continued)

Variables	Correlations	Credit hour efficiency	Cum. GPA	Class Level	Sex	Race
Attrition	Correlation	.207*	-.019	-.224*	-.053	.014
	Sig. (2-tailed)	.019	.831	.011	.551	.880
	n	128	128	128	128	117
Fin. Aid	Correlation	.178*	.252**	-.292**	-.092	.074
	Sig. (2-tailed)	.044	.004	.001	.301	.426
	n	128	128	128	128	117
Acad. prepared	Correlation	.091	.055	.039	-.198*	.065
	Sig. (2-tailed)	.324	.551	.672	.029	.496
	n	121	121	121	121	112
Work on	Correlation	.194*	.170	.067	-.057	.016
	Sig. (2-tailed)	.033	.063	.467	.534	.867
	n	121	121	121	121	112
Work off	Correlation	-.156	-.055	.183*	.042	-.017
	Sig. (2-tailed)	.089	.550	.046	.646	.860
	n	120	120	120	120	111
Work On and Off	Correlation	-.090	-.006	.244**	.013	-.070
	Sig. (2-tailed)	.325	.945	.007	.890	.464
	n	121	121	121	121	112
Credit hour efficiency	Correlation	1.000	.670**	-.047	-.124	.082
	Sig. (2-tailed)		.000	.596	.165	.377
	n	128	128	128	128	117
Cumulative GPA	Correlation	.670**	1.000	.137	-.163	-.111
	Sig. (2-tailed)	.000		.123	.066	.235
	n	128	128	128	128	117
Class Level	Correlation	-.047	.137	1.000	.011	-.206*
	Sig. (2-tailed)	.596	.123		.900	.026
	n	128	128	128	128	117
Sex	Correlation	-.124	-.163	.011	1.000	.247**
	Sig. (2-tailed)	.165	.066	.900		.007
	n	128	128	128	128	117
Race	Correlation	.082	-.111	-.206*	.247**	1.000
	Sig. (2-tailed)	.377	.235	.026	.007	
	n	117	117	117	117	117

CHAPTER IV

DISCUSSION

Carrying a full-time job while in school has been shown to correlate with a student's educational success (Aper, 1994; Martin, 2012). The present study posited to show significant negative correlations between work hours and the variables of GPA, 1-year attrition, hours per week preparing for class, credit hour efficiency (credit hours earned divided by credit hours attempted), receiving financial aid assistance, and class level. My study also looked for differences between work hours by gender. The only significance that I found was between work on campus vs. work off campus and credit hour efficiency.

The data did not fit my original hypotheses very well. The exception was Hypothesis 3 which predicted an inverse relationship between work status and credit hour efficiency (credit hours earned divided by number of hours attempted). Significance, though modest, was found with different relationships between students working off campus vs. on campus and credit hour efficiency. Thus, the academic progress or academic efficiency of working students was related inversely to the amount they worked off campus. However, that relationship was complicated by the location of the student jobs. The student credit hours efficiency was positively correlated with students working on campus.

The importance of job location (on campus vs. off campus) is the most interesting finding from my study. Some of the correlations mentioned in my Hypotheses 1 and 2 results also showed significant positive correlations between on-campus work hours and measures of success in college (work on campus and cumulative GPA, $\rho = .170$, $p = .031$,

work on campus and reported hours per week preparing for class, $r = .198$, $p = .015$). The value of on campus work found here is consistent with previous work of Aper (1994) who reported that on campus work and off campus work related to a student's chosen major correlated with measures of success in college. Similarly, Aper (1994) found that students working on campus in a job that was academic or related to career interests used the library significantly more than students working off campus. Aper's on-campus students working in areas related to their majors also used the library significantly more than those working on campus in a nonacademic job not or a job that was unrelated to career interests. This is congruent but more specific than my present finding that students with on-campus jobs had a significant positive correlation with reported hours per week preparing for class.

Other than Hypothesis 3, I was disappointed with my findings. For example I expected significant relationships between student employment and grade point average, attrition, credit hour efficiency (credit hours earned divided by number of hours attempted), receiving financial aid, class level (first-time freshman vs. senior), and gender. Overall, my results demonstrated surprising consistency. All other expected results failed to reach expected significance.

I was not completely surprised to find that work off campus and work on and off campus combined were significantly positively correlated with class level (freshman vs. senior). Auers et al. (2007) showed that students who are older tend to be among those who work while in school. It is interesting that work on campus is the only work variable out of the three that did not correlate with class level. These older students did not show a significant positive correlation with work on campus. This may point to a need to make

available opportunities for older students to have reasonable, on-campus opportunities for employment that would fit their needs and future career interests. On-campus jobs may afford advanced undergraduates opportunities to be involved on campus in the same ways that Aper (1994) showed were so beneficial for students working on campus.

Conclusions

My major positive finding (partial support for Hypothesis 3) was the significant inverse relationships between work off campus and credit hour efficiency (credit hours earned divided by number of hours attempted). Thus, working student's academic progress or academic efficiency was related inversely to the amount they worked off campus. This finding depended on whether the student worked on or off campus. In fact, there was a significant positive relationship between working on campus and the student credit hour efficiency. This important finding was supported by some of my other results. For example, Hypothesis 1 showed a significant, though modest, positive correlation between work on campus and cumulative GPA. Similarly, Hypothesis 2 showed a significant, also modest, positive correlation between work on campus and reported hours per week preparing for class. However, the hypotheses failed to find a relationship between hours worked in general and measures of academic success (GPA and hours preparing for class).

On the other hand, I was impressed with the overall GPAs of my participants, above 3.0. It is worthwhile noting that these GPAs were official GPAs obtained electronically through the university's Office of Information Technology. These were not self-reported or estimated GPAs. Although many participants who worked off campus averaged nearly 20 hr a week, their GPAs were impressive, averaging a 3.07 GPA. Those

working on campus averaged around 5 hr worked per week and an average 3.36 GPA. Those not working any hours per week had a 2.99 average GPA. It is surprising that measures of student work hours of over 16 hr per week were largely unrelated to student grade point averages for those working off campus. Given the fact that the averages for the work variables include a grouping that represents 0 hr worked, this shows that these participants are often working many hours in order to set the mean at 4.11 (which represents between 11 and 20 hr worked per week) for those working off campus.

Overall, I found one predicted inverse correlation that I was able to expand; however, the majority of my results were small, insignificant, and thus largely unimpressive. Negative results are difficult to interpret because a researcher cannot tell why the results were insignificant. From my view, future researchers looking into the relationship between hours worked per week and academic variables should ensure that they use continuous variables for work hours. This improvement would ensure more sensitivity when relating hours worked and academic outcomes. In my opinion, the grouping variables dulled down my findings. Also, separately addressing hours worked per week between work on or off campus would likely be beneficial as my results showed opposite directions of significance between the two work variables. Although my research was largely inconclusive, as someone who worked full time throughout my undergraduate and graduate university experiences, I continue to believe firmly that work status is related to academic success. In my mind further research on this important link is warranted.

Limitations

Grouping hypotheses with work variables in general instead of breaking up differing work variable groups with possible differing directions of correlation proved to be a mistake for the current study. Additionally, this data set is representative of a narrow population (self-reported first-time freshmen and senior psychology majors) within the student body at Middle Tennessee State University for the years of 2008, 2009, 2011, and 2014. Therefore, the sample is not representative of the university population as a whole and it would not be appropriate to make generalizations to the general college population based on results of these correlations. Only including freshman and seniors in the participant pool limited potential respondents. It also limited the ability to generalize these results to psychology undergraduate majors as a whole.

The study would have been improved with measures of: class attendance, school involvement, and socioeconomic status (SES). Also, the data set provided had limited differences in race across participants. Therefore, the sample may not be representative of the university population as a whole and it would not be appropriate to make generalizations to the general college population based on results of these correlations.

Additionally, my student working variables were quite crude (1 = 0 hr per week, 2 = 1 to 5 hr per week, 3= 6 to 10 hr per week, 4 = 11 to 15 hr per week, 5 = 16 to 20 hr per week, 6 = 21 to 25 hr per week, 7 = 26 to 30 hr per week, and 8 = more than 30 hr per week). For example, my student work variables grouped any hours worked over 30 into one category. This took out any effect that outliers working many hours may have had on the data and results.

REFERENCES

Aper, J.P. (1994). An Investigation of the Relationship between Student Work Experience and Student Outcomes (Report No. 143). New Orleans: American Educational Research Associaltion.

Auers, D., Rostoks, T., & Smith, K. (2007). Flipping burgers or flipping pages? Student employment and academic attainment in post-Soviet Latvia. *Communist and Post-Communist Studies, 40,* 477-491. doi: 10.1016/j.postcomstud.2007.10.004

Carpenter, D. M., & Ramirez, A. (2012). Exploring the underachievement gap. *Christian Higher Education*, *11*, 115-130. doi: 10.1080/15363759.2012.624458

Devadoss, S., & Foltz, J. (1996). Evaluation of factors influencing student class attendance and performance. *American Journal of Agricultural Economics*, *78*, 499-507.

Hwang, J. (2013). Employment and student performance in principles of economics. *International Review of Economics Education*, *13*, 26-30. doi: 10.1016/j.iree.2013.04.013

Kalil, A., & Wightman, P. (2011). Parental job loss and children's educational attainment in black and white middle-class families. *Social Science Quarterly, 92,* 57-78. doi: 10.1111/j.1540-6237.2011.00757.x

Kirby, A., & McElroy, B. (2003). The effect of attendance on grade for first year economics students in University College Cork. *Economic and Social Review*, *34*, 311-326.

Lang, K., & Lehmann, J.K. (2012). Racial discrimination in the labor market: theory and empirics. *Journal of Economic Literature, 50,* 959-1006. doi: http://dx.doi.org/10.1257/jel.50.4.959

Martin, N. D. (2012). The privilege of ease: Social class and campus life at highly selective, private universities. *Research in Higher Education*, *53*, 426-452. doi: 10.1007/s11162-011-9234-3

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,* 675-679. doi: 10.3200/JACH.56.6.675-679. PMID:18477523

National Conference of State Legislatures. (2015). *Performance-based funding for higher education*. Retrieved from http://www.ncsl.org/research/education/performance-funding.aspx

United States Department of Labor. (2015). *College enrollment and work activity of 2014 high school graduates*. Retrieved from http://www.bls.gov/news.release/hsgec.nr0.htm

Warren, J. R., & Cataldi, E. F. (2006). A historical perspective on high school students' paid employment and its association with high school dropout. *Sociological Forum*, *21*, 113-143. doi: 10.1007/s11206-006-9005-7

APPENDICES

APPENDIX A: IRB EXEMPTION LETTER

IRBN007 – EXEMPTION DETERMINATION NOTICE

Sunday, May 22, 2016

Investigator(s): Deanna Walerius and Dr. James Rust

Investigator(s') Email(s): dmw3s@mtmail.mtsu.edu

Department: Psychology

Study Title: Correlations among College Success and Student Working Status

Protocol ID: 16-1272

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU Institutional Review Board (IRB) through the EXEMPT review mechanism under 45 CFR 46.101(b)(2) within the research category (4) Study involving existing data A summary of the IRB action and other particulars in regard to this protocol application is tabulated as shown below:

IRB Action: EXEMPT from furhter IRB review***

Date of expiration: NOT APPLICABLE

Sample Size: 134

Participant Pool: Part of the National Survey of Student Engagement from MTSU

Mandatory Requirements: The MTSU office of IEPR approves the usage of the data

Additional Restrictions: IRB Approval is for only usage of the data

Comments: N/A

Amendments: Date- N/A; Post-Approval Amendments- N/A

***This exemption determination only allows above defined protocol from further IRB review such as continuing review. However, the following post-approval requirements still apply: addition/removal of subject population should not be implemented without IRB approval, change in investigators must be notified and approved, modifications to procedures must be clearly articulated in an addendum request and the proposed changes must not be incorporated without an approval, be advised that the proposed change must comply within the requirements for exemption, changes to the research location must be approved – appropriate permission letter(s) from external institutions must accompany the addendum request form, changes to funding source must be notified via email (irb_submissions@mtsu.edu), the exemption does not expire as long as the protocol is in good standing,pProject completion must be reported via email (irb_submissions@mtsu.edu), research-related injuries to the participants and other events must be reported within 48 hours of such events to compliance@mtsu.edu

The current MTSU IRB policies allow the investigators to make the following types of changes to this protocol without the need to report to the Office of Compliance, as long as the proposed changes do not result in the cancellation of the protocols eligibility for exemption: editorial and minor administrative revisions to the consent form or other study documents, and increasing/decreasing the participant size

The investigator(s) indicated in this notification should read and abide by all applicable post-approval conditions imposed with this approval. Refer to the post-approval guidelines posted in the MTSU IRB's website. Any unanticipated harms to participants or adverse events must be reported to the Office of Compliance at (615) 494-8918 within 48 hours of the incident.

All of the research-related records, which include signed consent forms, current & past investigator information, training certificates, survey instruments and other documents

related to the study, must be retained by the PI or the faculty advisor (if the PI is a student) at the secure location mentioned in the protocol application. The data storage must be maintained for at least three (3) years after study completion. Subsequently, the researcher may destroy the data in a manner that maintains confidentiality and anonymity. IRB reserves the right to modify, change or cancel the terms of this letter without prior notice. Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board

Middle Tennessee State University