

HIM 1990-2015

2015

Family Struggles and Substance use among First Generation College Students

Barbara Vehabovic
University of Central Florida

 Part of the [Psychology Commons](#)

Find similar works at: <https://stars.library.ucf.edu/honorstheses1990-2015>

University of Central Florida Libraries <http://library.ucf.edu>

This Open Access is brought to you for free and open access by STARS. It has been accepted for inclusion in HIM 1990-2015 by an authorized administrator of STARS. For more information, please contact STARS@ucf.edu.

Recommended Citation

Vehabovic, Barbara, "Family Struggles and Substance use among First Generation College Students" (2015). *HIM 1990-2015*. 1889.

<https://stars.library.ucf.edu/honorstheses1990-2015/1889>

FAMILY STRUGGLES AND SUBSTANCE USE AMONG FIRST
GENERATION COLLEGE STUDENTS

by

BARBARA VEHABOVIC

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

Fall Term 2015

Thesis Chair: Dr. Chrysalis Wright

ABSTRACT

The current study seeks to examine the relationship between family struggles, as measured by social class and parental marital status, and substance use among first-generation college students. 902 students from the University of Central Florida participated in an online questionnaire that assessed their social class, parents' marital status, drug and alcohol use, as well as demographic variables. Results indicated a significant positive correlation between substance use and social class as well as generational status. Males were also more likely to use drugs and alcohol than females. A regression analysis indicated social class, gender, junior and senior academic years were all identified as significant predictors of drug and alcohol use, whereas college student generational status, parents' marital status, freshmen and sophomore academic years were not. There are various possible explanations that may account for the reasoning behind first-generation students not being vulnerable to substance use, including extensive stressors specific to that population as discussed with previous literature. The findings of the current study can be implicated throughout counseling centers and prevention programs among college campuses in order to decrease the high prevalence of substance use among college students and prevent negative consequences.

ACKNOWLEDGEMENTS

First and foremost, I would like to thank my thesis chair, Dr. Wright. You have been an immense help with every step and process of formulating my thesis. All the feedback you have provided me with has pushed me to deepen my research in the psychological field. I wish I had met you sooner and had the honor of experiencing your skills as a professor because with this project alone, you have helped me learn so much already. I'd also like to thank the entire UCF faculty in psychology for expanding my knowledge in the psychological field. Being the first in my family to attend college, a special thanks goes to my mom and dad for giving me the opportunity to earn a higher education. Without your support and belief in my endeavors, I would not be where I am today.

TABLE OF CONTENTS

CHAPTER ONE: INTRODUCTION.....	1
Substance Use and College Students	1
Substance Use and Family Struggles	2
Substance Use and Social Class.....	3
Substance Use and Stress.....	4
First-Generation College Student Characteristics.....	4
First-Generation College Student Stressors	5
Substance Use and Social Networks.....	7
The Current Study.....	8
CHAPTER TWO: METHOD.....	10
Participants and Procedures	10
Measures	11
CHAPTER THREE: RESULTS	13
Reported Drug and Alcohol Use.....	13
Inter-correlations of Study Measures.....	14
Predicting Drug and Alcohol Use	14
CHAPTER FOUR: DISCUSSION.....	15

Importance of Current Study	17
Implications for Future Research and Limitations of Current Study.....	17
APPENDIX A: IRB OUTCOME LETTER	20
APPENDIX B: DEMOGRAPHIC QUESTIONNAIRE	22
APPENDIX C: SOCIAL CLASS QUESTIONNAIRE.....	24
APPENDIX D: DRUG AND ALCOHOL USE QUESTIONNAIRE.....	28
APPENDIX E: TABLES	30
REFERENCES	34

CHAPTER ONE: INTRODUCTION

The tendency for substance use to increase among college students has been a well-studied trend. Risk factors, such as socioeconomic status, a minority ethnicity, stress, social networks, exposure to substance use messages in media, and pre-college drinking have all been found to influence substance use in students' transition to college (Broman, 2005; Humensky, 2010; Mason, Zaharakis, & Benotsch, 2014; O'Hare & Sherrer, 2000; Sher & Rutledge, 2007; Stern & Wiens, 2009; Wright & DeKemper, in press). Numerous researchers have investigated the relationship between various influences on substance use among students during their first year in college; however, there is limited research on whether generational status acts as a mediator between those influences. First-generation college students can be defined as students who are the first in their families to attend and graduate from college (Bui, 2002). In comparison to their continuing-generation peers, these students do not have parents that have completed higher education, which may be a risk factor in regards to their substance use during their college experience.

Substance Use and College Students

According to the Substance Abuse and Mental Health Services Administration (SAMHSA), the 2013 prevalence of illegal drug use among college students was found to be 22.3%, with practically no difference when compared to non-college students. However, the SAMHSA statistics showed that full-time college students had a statistically significant higher rate of alcohol use (59.4%) than part-time students and those not enrolled in college combined (50.6%). These results further indicated that 39% of those full-time college drinkers also

participated in binge drinking and 12.7% were heavy drinkers. These rates have remained relatively stable and consistent since 2002. Previous research has also shown marijuana to be the most used illegal drug among college students in order to be more social and reduce emotional distress from academic or personal issues (Suerken et al., 2014). According to Sher and Rutledge (2007), the most significant predictor of heavy drinking among college students was found to be precollege drinking. Other positive indicators included peer drinking networks and precollege motivations to attend college for party purposes. Other results further indicated that high risk alcohol consumption is highly associated with other drug use, less protective behaviors, a lower perception of drug harmfulness, and a less accurate perception of social norms regarding substance use (Chiauzzi, DasMahapatra, & Black, 2013).

Substance Use and Family Struggles

One's social environment plays an important role in decisions regarding substance use and risky behaviors. Specifically, the relationship adolescents have with their parents and family members may influence their use of drugs or alcohol in early adulthood. A previous study was conducted to explore the effects of family conflict on alcohol use and cigarette smoking among teenagers (Kristjansson, Sigfusdottir, Allegrante, & Helgason, 2009). Their results indicated that parental divorce, serious arguments, and violence significantly increased the probability of young adults engaging in cigarette and alcohol use in early adulthood. Researchers further pointed out that the more time teenagers spent with their parents, the less likely they were to participate in substance use. Therefore, they stressed the importance of addressing parental functioning through family conflicts in order to reduce the risk of substance use and maintain an overall healthy well-being among the children in the middle of family discord.

Substance Use and Social Class

Socioeconomic status has been found to be a major predictor of substance use, however, the results have been mixed with the majority favoring high income as a predictor of substance use (Harrell, Huang, & Kepler, 2013; Humensky, 2010). Humensky (2010) conducted a longitudinal study to examine whether having high socioeconomic status, as a teenager was associated with the greater probability of risky substance use behaviors in early adulthood. These results indicated that higher parental education and household income were positively correlated with binge drinking and marijuana use. Since young adults coming from backgrounds with higher incomes have more spending money, the high cost substances are made more easily attainable for them and therefore, substance use was found to increase. Similar results were also found by Harrell and colleagues (2013) in which, higher reported socioeconomic status was associated with increased alcohol problems among college students, further supporting high financial stability as a predictor of substance use in early adulthood. The same results were found to pertain to marijuana and other illegal substance use in addition to alcohol (Suerken et al., 2014). In contradiction to these findings, Goodman and Huang (2002) reported that students with a low socioeconomic background actually are at greater risk of engaging in substance use and further developing substance abuse disorders because of the positive correlation between low socioeconomic status and depression among young adults (as cited in Humensky, 2010). This may be explained by the speculation that students with low-income families may be dealing with more stressors and hardships and therefore, use substances as a negative coping mechanism in order to avoid their struggles.

It is important to point out that how social class is measured is extremely important. Measures based on single determinants of social class, such as participation in subsidized food programs, are likely inadequate depictions of an individual's true socioeconomic status (Barone et al., 1996; Brimeyer & Smith, 2012; Owen, Rhoades, Stanley, & Finchman, 2007; Weinberg, Lottes, & Gordon, 1977). Using multiple determinants of social class, such as occupational classifications and principle wage earnings, tend to create more balanced measures of socioeconomic status (Layte, McGee, Rundle, & Leigh, 2006).

Substance Use and Stress

Another significant risk factor related to substance use is stress. College students are especially vulnerable to emotional and social stressors as they transition to a brand new college environment away from the life of comfort at home. Stressful situations are associated with negative coping mechanisms, such as alcohol and drug use, which consequently increases stress even further due to the dangerous effects of excessive substance use (O'Hare & Sherrer, 2000). According to Broman (2005), both life and traumatic stressors are associated with the greater use of substances among college students, with the relationship varying slightly according to race and gender. College students are more vulnerable to experience traumatic life stressors and therefore are at higher risk of developing problematic drinking in order to cope with those stressors.

First-Generation College Student Characteristics

First-generation college students are characterized as students whose parents never attended college and they comprise about 50% of the college student population (Bui, 2002;

Mehta, Newbold, O'Rourke, 2011). According to Bui (2002), these students are more likely to be of ethnic minority, have a lower socioeconomic status, and have lower academic achievements. First-generation college students differ significantly from their continuing-generation peers in their reasons for pursuing a higher education and in their first-year experiences. Their primary motives for attending college were found to be gaining respect, bringing honor to their family, and having the ability to help their family financially upon graduation (Bui, 2002). Therefore, first-generation college students may feel more pressure to succeed knowing that their family is depending on them. Some of these students may also experience "family achievement guilt" related to the guilt experienced when one succeeds beyond one's family members, such as being the first to obtain a college degree (Covarrubias & Fryberg, 2014). First-generation college students were found to put their family relationships as a higher priority and therefore, reported experiencing more guilt for leaving their family to struggle at home as they left for college. This, consequently, may hinder their academic success and may be a contributing factor to the lower graduation rates among first-generation college students.

First-Generation College Student Stressors

In addition to the general stressors that nearly all college students may face, such as anxiety about leaving home, the need to make new friends, increased academic responsibilities, managing finances, and living life on their own, first-generation college students have even more (Barry, Hudley, Kelly, & Cho, 2009; Jenkins, Belanger, Connally, Boals, & Duron, 2013). These students also feel less prepared for college, worry more about financial aid, fear failing college more, and report being less knowledgeable regarding the social environment at college in

comparison to continuing-generation students (Bui, 2002). Previous literature has shown that first-generation college students experience greater challenges than other students whose parents have a college education. Jenkins and colleagues (2013) identified these challenges as lower academic motivation, less family support, less financial assistance, less knowledge about higher education, and less academic preparation. Since first-generation college students are more likely to derive from a family of low socioeconomic status or be of a minority culture, they may face additional social stressors related with those factors as well. Jenkins and colleagues (2013) also pointed out that students growing up from a low socioeconomic environment might also be at a higher risk for exposure to traumatic events, contributing further to their life of stress. Their study indicated that first-generation college students reported significantly stronger symptoms of Post-Traumatic Stress Disorder (PTSD) and less life satisfaction in comparison to other students with college educated parents. Since stress is associated with substance use, first-generation college students may be vulnerable to risky substance use behaviors based on these findings.

According to Barry and colleagues (2009), a significant way of reducing stress and enhancing overall well-being is having the ability and opportunity to discuss stressful situations with a social support system. However, first-generation college students lack the pertinent social support specific to college experiences since they do not have parents that are able to relate to their stressors as well as parents who have had a college experience. Therefore, these students have a limited opportunity to effectively disclose their feelings of stress, which, in turn may hinder their academic success and physical health while also exacerbating their overall stress levels even higher.

According to a study done by Jenkins and colleagues (2013), first-generation college students reported significantly less social support from family and friends in comparison to their continuing-generation peers. Parents that have no college experience may have less factual information to share with their children and therefore, may be perceived as being less supportive, despite their desire and effort to actually be more supportive. This supports the notion that first-generation college students do not often disclose their college worries, hardships, or stressors, which limits their benefit from seeking out any social support.

In order to be successful in college, previous literature has emphasized social interaction, social support, and active coping skills as contributing factors (Mehta et al., 2011; Rubin & Wright, 2015). First-generation college students are less likely to be involved on campus because their financial struggles may oblige them to work more hours, therefore, leaving them with no time for social activities. They are also less likely to use active coping strategies because of their lower social involvement, supportive networks, financial resources, and insufficient college readiness. In a previous study examining self-esteem and locus of control as influences on college adjustment among first-generation and continuing-generation college students, Aspelmeier, Love, McGill, Elliott, and Pierce (2012) found generational status to be a mediator among those factors. The positive correlations between self-esteem, locus of control, and academic outcomes were strongest among first-generation college students than other students among both low and high outcomes.

Substance Use and Social Networks

Social networks can be a very positive aspect of college success if it is used as an active coping mechanism and a social support system, however, in terms of substance use, social

networks have been found to be a risky factor. According to Mason and colleagues (2014), peer networks exert a large amount of influence on college students' decisions to abuse substances because they surround themselves with friends engaging in risky behaviors. Substance use is more likely to increase once students begin college because they go from parental supervision to independent freedom. While examining the mental health of college students, Mason and colleagues (2014) also found that perceived peer closeness decreased the risk of symptoms of mental illnesses, specifically depression and anxiety. Therefore, peer networks have both positive and negative effects on college students, depending on the characteristics.

The Current Study

The current study sought to examine the relationship between family struggles and substance use among first-generation college students. Previous literature has primarily focused on substance use among first-year college students and its relationship with socioeconomic status, social networks, and stress. However, there have been no studies examining these relationships among first-generation college students specifically. The current study analyzed family struggles (parental marital status and socioeconomic status) as predictors of substance use among first-generation college students. Based on prior studies, it was hypothesized that socioeconomic and financial hardships would be positively correlated with substance use, whereas, marital status would be negatively correlated with students having divorced parents being more vulnerable to substance use than students with married parents. Although first-generation college students face a significant amount of stressors and stress has been found to be a contributing factor of substance use, they are also more likely to be of low socioeconomic status and lack social support networks, which were found not to be contributing factors of

substance use. Therefore, first-generation college students would be less likely to engage in risky substance use behaviors overall.

CHAPTER TWO: METHOD

Participants and Procedures

Data for the current study came from a recent study conducted at the University of Central Florida (UCF) via the Sona System. Participants in the original study took, on average, 32.50 minutes to complete the online questionnaire and received class credit or extra credit for their participation. The current study was submitted to the IRB for review and was deemed non-human subjects research (see Appendix A), as new data were not collected. A total of 1,013 college students participated in the original study. A total of 111 participants were deleted from the study because their responses indicated that they were not involved with the survey or they did not answer important questions in the study, leaving a total usable sample size of 902.

The majority of participants were female ($n = 647$, 71.7%) and identified as white ($n = 613$, 68%). The age of participants ranged from 18 to 59 ($M = 21.58$). Two hundred and eighty six (31.7%) participants indicated that they were in their freshman year, 12.7% ($n = 115$) were sophomores, 29.5% ($n = 266$) were juniors, 25.4% ($n = 229$) were seniors, and the remaining .7% ($n = 6$) were graduate students. Two hundred and two participants (22.4%) indicated that they were first-generation college students. The majority of participants ($n = 523$, 58%) reported that their parents were currently married to one another. Another one hundred and forty nine participants (16.5%) reported that their parents were currently divorced and 138 (15.3%) participants reported that their parents had remarried. The remaining participants reported that their parents were never married ($n = 76$, 8.4%) or that they did not know their parents marital status ($n = 16$, 1.8%).

Measures

Demographic Questionnaire

Participants answered eight questions related to their age, race/ethnicity, gender, and year in college. Participants answered one dichotomous question to determine if they were first-generation college students. Participants also reported the current marital status of their parents (i.e., continuously married, divorced, remarried, never married, unknown). The complete list of demographic questions can be found in Appendix B.

Social Class

Social class was assessed using measures of parental education, income, and occupation as well as measures of self-identified social class identity (for a review, see Rubin 2012). Students indicated the highest education level of (a) their mother and (b) their father. Categories used included: *no formal schooling, elementary school, middle school (junior high school), high school (secondary education), university or college – but did not graduate, university or college – graduated with an undergraduate degree (e.g. Bachelors), university or college – graduated with a postgraduate degree (Masters or PhD), don't know.*

Students also indicated how they thought most people would rate the occupation of (a) their mother and (b) their father in terms of its prestige and status on an 11-point scale anchored *extremely high status and prestige* (11) and *extremely low status and prestige* (1), with a *don't know* option available. They also provided a subjective indication of their family income during childhood using a 5-point scale anchored *well above average* (5) and *well below average* (1), with a *don't know* option available.

Finally, students completed three subjective measures of social class (e.g. Ostrove & Long 2007; Rubin & Wright, in press; Soria, Stebleton, and Huesman 2013; for a discussion, see Rubin et al. 2014). Participants indicated the social class that they felt best described (a) themselves, (b) their mother, and (c) their father using a 6-point scale: *poor* (1), *working class* (2), *lower middle class* (3), *middle class* (4), *upper middle class* (5), *upper class* (6), with a *don't know* option available.

Response options of *don't know* were coded as missing data for all items. Items were then transformed to z scores and then averaged to derive at a total social class measure that was used in analyses. Alpha reliability in the current study was .80. The social class questionnaire can be found in Appendix C.

Drug and Alcohol Use

Participants answered a series of questions pertaining to their use of drugs and alcohol in the past thirty days. Participants were asked how often they have used substances using a 8-point Likert-type scale (*never used, have used but not in the past 30 days, 1-2 days, 3-5 days, 6-9 days, 10-19 days, 20-29 days, all 30 days*). Substances listed were modified from Primack et al. (2013) with additional substances added based on Snipes and Benotsch (2013). Primack et al. (2013) reported that their questions contained good face validity while Snipes and Benotsch (2013) reported concurrent validity with their measures. Items were summed to derive at a total drug and alcohol use measure that will be used in analyses. Alpha reliability in the current study was .73. The drug and alcohol use questionnaire can be found in Appendix D.

CHAPTER THREE: RESULTS

Preliminary analyses to assess the reliability of scales, distributional characteristics, and the extent of missing data were first conducted. Missing data were minimal for most variables (< 5%) and were found to be missing completely at random (MCAR). Therefore, a simple mean substitution imputation method was used (Kline, 2005). This method involves replacing the missing data with the overall mean value for the variable. There is the possibility that replacing missing data in this manner can distort the distribution of the data. However, it had no detectable effect on this dataset. This method of handling missing data is preferable to deletion methods as it allows for complete case analyses, does not reduce the statistical power of tests, and takes into consideration the reason for missing data (Twala, 2009). Moreover, this method of data imputation is a good representation of the original data as long as the missing data is less than 20%, which was the case in the original sample (Downey & King, 1998).

Reported Drug and Alcohol Use

Statistics calculated from the data indicate that marijuana and alcohol use were the most prevalent among the college students that participated in this study, with 46.5% of all participants reporting having used marijuana and 84.8% reporting drinking only one serving of alcohol before. Additionally, 70.5% of college students reported drinking four or more servings of alcohol within the past 30 days. In regards to other substances, the majority of students have never smoked cigarettes (70.7%), little cigars (75.8%), used ecstasy (89.4%), methamphetamines (97%), cocaine (91.8%), ketamine (98.7%), or poppers (98.6%).

Inter-correlations of Study Measures

Bivariate correlations were conducted to determine the relationship between social class, first generation college student status, parents' marital status, participant gender, year in college, and drug and alcohol use among participants. Results indicated a statistically significant positive correlation between substance use and social class, $r(902) = .08, p < .05$, and substance use and generational status, $r(902) = .07, p < .05$. The correlational analysis further revealed a significant negative correlation between substance use and gender, $r(902) = -.10, p < .01$. However, the correlations between substance use and parents' marital status as well as year in college were not found to be significant. The inter-correlation between these variables of interest can be found in Table 2.

Predicting Drug and Alcohol Use

A linear regression analysis was conducted to determine how first generation college student status, parents' marital status, social class, gender, and year in college related to participants drug and alcohol use. The overall regression model was significant, $F(8, 893) = 3.04, p < .01, R^2 = .03$. Social class, gender, junior and senior level college students were all identified as significant predictors of drug and alcohol use, whereas college student generational status, parents' marital status, freshmen and sophomore level college students were not. Regression coefficients can be found in Table 3.

CHAPTER FOUR: DISCUSSION

The results of this study are supportive of the hypothesis that family struggles, as was measured by social class and generational status, do relate to substance use among college students, with the exception of parents' marital status. Although the computed correlations were small, they were still statistically significant enough to indicate corresponding relationships among the variables of interest on substance use.

According to the results, the students that associated themselves with a higher social class were more likely to engage in alcohol and drug use. This further supports the majority of previous studies in literature in which substance use is associated with higher socioeconomic status among college students (Harrell, Huang, & Kepler, 2013; Humensky, 2010). It can be inferred that the reason behind this finding is because alcohol and drugs are costly and those with a greater income have a larger opportunity to afford those substances and therefore, may be more vulnerable to substance abuse. Additionally, the students that were not of first generation status and those of a higher year in college (juniors and seniors) were also more inclined to engage in substance use. Junior and senior college students are more likely to be of legal drinking age, which may explain the higher rates of substance use among students in higher academic years in comparison to freshman and sophomores. Drug and alcohol use was also higher among male college students than female college students. This may be explained by the tendency for males' capability to have a higher tolerance of alcohol and therefore, ability to drink more than females to the point of intoxication. A study conducted by Korcuska and Thombs (2003) identified higher alcohol consumption levels and resulting consequences among college males than females. They suggested that this relationship is linked to gender roles and social norms with

men being more inclined to participate in risky drinking behavior as to not be rejected by their college peers. According to the SAMHSA, 2013 statistics indicated a higher probability for males (44.8%) to become binge drinkers in comparison to females (33.9%) of the college student population, whereas the current drinking statistics remained nearly the same amongst both genders. In accordance with the research done by Korcuska and Thombs (2003), this suggests that males may be more vulnerable to the extremes of substance use rather than substance use in general. The only variable that did not play a significant role in substance use among college students was their parents' marital status.

Since first-generation students were found to not be at higher risk of substance use in comparison to continuing-generation students, it may be inferred that this is because first generation students are more likely to be of lower socioeconomic status and therefore, cannot afford the extra expenses of drugs and alcohol. According to Humensky (2010), students that came from high socioeconomic backgrounds were more likely to develop substance abuse problems as adults and according to Jenkins and colleagues (2013), first-generation students are more likely to derive from low socioeconomic backgrounds and therefore, not as likely to develop those issues. The current study further supports this notion with results indicating generational status having a statistically significant positive correlation with social class; meaning first-generation students are more likely to be of a lower social class in addition to correlating with lower substance use. Another possible explanation may be that they have additional stressors that other college students do not (lower academic motivation, less family support, more financial worries, less academic preparation, and less knowledge regarding college life) and therefore, seclude themselves from social interactions where substance use is more

likely to occur (Jenkins et al., 2013). First-generation students may have difficulty dealing with financial stressors in addition to academic and social stressors from which they may not have much helpful support from inexperienced parental figures that continuing-generation students may have. Therefore, being of a lower social class, first-generation students do not have the money to afford the expenses of alcohol and drug substances that would further deepen their pre-existing financial struggles. However, since this is a correlational study that did not include stress variables, a cause and effect relationship cannot be determined.

Importance of Current Study

Implications for this study include incorporating alcohol and drug prevention services on college campuses to help reduce substance use among college students and the negative consequences associated with it. Since males and students of junior and senior status have a higher rate of substance use, those programs may want to target that specific population in addition to all college students. Even though first-generation students do not have a higher rate of substance use based on the results of this study, it would still be beneficial for college campuses to incorporate programs to help these students adapt to the college lifestyle and provide them with a social support system that they may lack.

Implications for Future Research and Limitations of Current Study

This study has its limitations as well that may be improved with future research. Since the questionnaires used for this study were conducted online, control over the study was reduced. Not all participants were in the same setting as they completed the questionnaire and therefore any surrounding distractions may be possible confounds. A common problem with self-report

inventories is that participants may provide false answers in order to portray themselves in a more favorable light. Therefore, students may not have been completely honest in their responses, especially when it comes to the substance use items. Even though identities were kept anonymous, some students may feel disappointed in themselves and not want to admit their actual substance use. Time may be another confound in that the questionnaire was quite long and students may have rushed to quickly answer the questions without paying full attention to the content. Additionally, the sample gathered was primarily female and white, limiting the population in which the results may be generalized to. Parental marital status may also not be a good measurement of family conflict, which may explain the insignificant findings for its relationship with substance use. Having divorced parents may not necessarily indicate conflict and having married parents may not mean there is not conflict. Also, current parental marital status may be different from that status during childhood, which is a more sensitive period to developing any kind of psychological problems associated with later life, including substance use. Rather, family conflict should be measured by incidences of violence or arguments during childhood. As was mentioned before, since this is a correlational study, no cause and effect conclusion can be made. Therefore, in order to determine the possible causes behind the relationship between generational status and family struggles on substance use, more extensive data analysis would have to be conducted. It can only be said that there is a relationship between college student generational status and substance use with first-generation not being a predictor of substance use. Future researchers are encouraged to further examine this relationship to determine whether college student generational status is a cause of alcohol and drug use as well the possible reasons associated with it. It is suggested that forthcoming studies include stress

variable measurements in first-generation college students as predictors of substance use in order to see if they have an effect. With that, stronger evidence may then lead to future implications of first-generation programs aimed at reducing emotional, social, or academic stress in college students and therefore, increasing their graduation rate and success.

APPENDIX A: IRB OUTCOME LETTER



University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901, 407-882-2012 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

From : UCF Institutional Review Board #1
FWA00000351, IRB00001138
To : Chrysalis L. Wright and Co-PI: Barbara Vehabovic
Date : May 18, 2015

Dear Researcher:

On 05/18/2015 the IRB determined that the following proposed activity is not human research as defined by DHHS regulations at 45 CFR 46 or FDA regulations at 21 CFR 30.56:

Type of Review: Not Human Research Determination
Project Title: Family struggles among first generation college students
and substance use
Investigator: Chrysalis L. Wright
IRB ID: SBE-13-11323
Funding Agency:
Grant Title:
Research ID: N/A

University of Central Florida IRB review and approval is not required. This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are to be made and there are questions about whether these activities are research involving human subjects, please contact the IRB office to discuss the proposed changes.

On behalf of Sophia Dziugalewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

A handwritten signature in black ink that reads "Joanne Muratori".

Signature applied by Joanne Muratori on 05/18/2015 03:42:38 PM EDT

IRB manager

APPENDIX B: DEMOGRAPHIC QUESTIONNAIRE

- 1) What is your current age?
- 2) Which of the following best describes your racial background?
 - a. Black or African-American
 - b. White
 - c. American Indian or Alaska Native
 - d. Asian or Pacific Islander
 - e. Other
- 3) Are you of Hispanic origin?
 - a. yes
 - b. no
- 4) What is your gender?
 - a. male
 - b. female
- 5) What year are you in college?
 - a. first-year
 - b. second-year
 - c. third-year
 - d. fourth-year
 - e. postgraduate
- 6) Are you the first person in your family to attend college?
 - a. yes
 - b. no
- 7) What is your biological parents' current marital status?
 - a. married to each other
 - b. divorced
 - c. divorced and one or both parents have remarried
 - d. never married
 - e. I do not know
- 8) While growing up, how often did your family have problems paying for things that the family really needed (food, clothing, rent)?
 - a. never
 - b. very little
 - c. sometimes
 - d. often
 - e. almost always

APPENDIX C: SOCIAL CLASS QUESTIONNAIRE

1) The highest education level achieved by my father was/is:

- No formal schooling
- Primary school (Kindergarten to Year 6)
- Secondary or high school (Years 7 to 10)
- Senior secondary school (Years 11 & 12)
- Technical and Further Education (TAFE)
- University - undergraduate degree (Bachelor degree)
- University - postgraduate degree (Masters or PhD)
- Don't know

2) The highest education level achieved by my mother was/is:

- No formal schooling
- Primary school (Kindergarten to Year 6)
- Secondary or high school (Years 7 to 10)
- Senior secondary school (Years 11 & 12)
- Technical and Further Education (TAFE)
- University - undergraduate degree (Bachelor degree)
- University - postgraduate degree (Masters or PhD)
- Don't know

3) Please indicate how you think most people would rate your mother's main occupation in terms of its prestige and status.

- Extremely low status and prestige
- Very low
- Low
- Moderately below average
- Slightly below average
- Average
- Slightly above average
- Moderately above average
- High
- Very high
- Extremely high status and prestige
- Don't know

4) Please indicate how you think most people would rate your father's main occupation in terms of its prestige and status.

- Extremely low status and prestige
- Very low

- Low
- Moderately below average
- Slightly below average
- Average
- Slightly above average
- Moderately above average
- High
- Very high
- Extremely high status and prestige
- Don't know

5) My family income when I was a child was:

- Well below average
- Slightly below average
- Average
- Slightly above average
- Well above average
- Don't know

6) My mother's social class was/is:

- Working-class
- Lower middle-class
- Middle-class
- Upper Middle-class
- Upper-class
- Don't know

7) My father's social class was/is:

- Working class
- Lower middle-class
- Middle-class
- Upper middle-class
- Upper class
- Don't know

8) My social class is:

- Working class
- Lower middle-class

- Middle-class
- Upper middle-class
- Upper class
- Don't know

APPENDIX D: DRUG AND ALCOHOL USE QUESTIONNAIRE

Please indicate how often you have used the following substances within the past 30 days using the following scale:

- (a) Never used
- (b) Have used, but not in the past 30 days
- (c) 1-2 days
- (d) 3-5 days
- (e) 6-9 days
- (f) 10-19 days
- (g) 20-29 days
- (h) All 30 days

1. Cigarettes
2. Tobacco smoked from a Hookah (water pipe)
3. Little cigars (or cigars in general)
4. Marijuana
5. Ecstasy
6. Methamphetamines
7. Cocaine
8. Ketamine
9. Poppers (amyl or butyl nitrate)
10. Alcohol (one serving or drink in a single sitting)
11. Alcohol (more than 4 servings or drinks in a single sitting for females and more than 5 servings or drinks in a single sitting for males)

APPENDIX E: TABLES

Table 1: Participants Reported Drug and Alcohol Use

	Cigarettes	Tobacco smoked from Hookah	Little cigars	Marijuana	Ecstasy	Methamphetamines	Cocaine	Ketamine	Poppers	One serving of Alcohol	Four or more servings of Alcohol
Never used	638 (70.7%)	473 (52.4%)	684 (75.8%)	483 (53.5%)	806 (89.4%)	875 (97.0%)	828 (91.8%)	890 (98.7%)	889 (98.6%)	137 (15.2%)	266 (29.5%)
Used but not in the past 30 days	161 (17.8%)	312 (34.6%)	166 (18.4%)	262 (29%)	81 (9%)	21 (2.3%)	57 (6.3%)	9 (1%)	10 (1.1%)	217 (24.1%)	232 (25.7%)
1-2 days	38 (4.2%)	66 (7.3%)	34 (3.8%)	45 (5%)	11 (1.2%)	2 (0.2%)	13 (1.4%)	1 (0.1%)	2 (0.2%)	201 (22.3%)	153 (17%)
3-5 days	12 (1.3%)	34 (3.8%)	6 (0.7%)	29 (3.2%)	3 (0.3%)	2 (0.2%)	1 (0.1%)	--	1 (0.1%)	124 (13.7)	99 (11%)
6-9 days	13 (1.4%)	10 (1.1%)	5 (0.6%)	23 (2.5%)	--	2 (0.2%)	2 (0.2%)	2 (0.2%)	--	108 (12%)	88 (9.8%)
10-19 days	10 (1.1%)	7 (0.8%)	5 (0.6%)	24 (2.7%)	1 (0.1%)	---	1 (0.1%)	--	--	99 (11%)	57 (6.3%)
20-29 days	5 (0.6%)	--	2 (0.2%)	20 (2.2%)	--	---	---	--	--	11 (1.2%)	6 (0.7%)
All 30 days	25 (2.8%)	--	--	16 (1/8%)	--	---	---	--	--	5 (0.6%)	1 (0.1%)

Table 2: Inter-correlation of Study Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1.Social Class	1	.36**	.16**	-.04	-.05	-.16**	-.07*	.13**	.08*	-.08*	-.13**	.05	.08*
2.First Generation	.36**	1	.06	-.02	.03	-.12**	-.10**	.13**	.05	-.06	-.11**	.04	.07*
3.Married	.16**	.06	1	-.52**	-.50**	-.36**	-.07*	.08*	.04	-.10**	-.02	.01	-.00
4.Divorced	-.04	-.02	-.52**	1	-.19**	-.14**	-.01	-.09*	-.06	.13**	.01	.00	.02
5.Remarried	-.05	.03	-.50**	-.19**	1	-.13**	.04	-.01	-.01	-.03	.04	.00	.01
6.Never married	-.16**	-.12**	-.36**	-.14**	-.13**	1	.08*	-.04	.04	.03	-.01	-.03	-.04
7.Gender	-.07*	-.10**	-.07*	-.01	.04	.08*	1	-.15**	-.06	.11**	.10**	-.04	-.10**
8.Freshman	.13**	.13**	.08*	-.09*	-.01	-.04	-.15**	1	-.26**	-.44**	-.40**	-.06	-.06*
9.Sophomore	.08*	.05	.04	-.06	-.01	.04	-.06	-.26**	1	-.25**	-.22**	-.03	-.00
10.Junior	-.08*	-.06	-.10**	.13**	-.03	.03	.11**	-.44**	-.25**	1	-.38**	-.05	.03
11.Senior	-.13**	-.11**	-.02	.01	.04	-.01	.10**	-.40**	-.22**	-.38**	1	-.05	.04
12.Graduate	.05	.04	.01	.00	.00	-.03	-.04	-.06	-.03	-.05	-.05	1	.00
13.Drug and Alcohol Use	.08*	.07*	-.00	.02	.01	-.04	-.10**	-.06	-.00	.03	.04	.00	1

*** $p < .001$; ** $p < .01$; * $p < .05$

Table 3: Regression Coefficients

	Drug and Alcohol Use
First Generation	.05
Married Parents	-.02
Social Class	.07*
Gender	-.12**
Freshman	
Sophomore	.03
Junior	.10*
Senior	.11**
Graduate	.00
R^2	.03
F	3.04**

*** $p < .001$; ** $p < .01$; * $p < .05$

REFERENCES

- Aspelmeier, J.E., Love, M.M., McGill, L.A., Elliott, A.N., & Pierce, T.W. (2012). Self-esteem, locus of control, college adjustment, and GPA among first- and continuing-generation students: A moderator model of generational status. *Research in Higher Education, 53*, 755-781. doi:10.1007/s11162-011-9252-1
- Barone, C., Ickovics, J. R., Ayers, T. S., Katz, S. M., Voyce, C. K., & Weissberg, R. P. (1996). High-risk sexual behavior among young urban students. *Family Planning Perspectives, 28*, 69-74.
- Barry, L.M., Hudley, C., Kelly, M., & Cho, S. (2009). Differences in self-reported disclosure of college experiences by first-generation college student status. *Adolescence, 44*, 55-68.
- Brimeyer, T. M., & Smith, W. L. (2012). Religion, race, social class, and gender differences in dating and hooking up among college students. *Sociological Spectrum, 32*, 462-473. doi:10.1080/02732173.2012.694799
- Broman, C.L. (2005). Stress, race and substance use in college. *College Student Journal, 39*, 340-352.
- Bui, K.T. (2002). First-generation college students at a four-year university: Background characteristics, reasons for pursuing higher education, and first-year experiences. *College Student Journal, 36*, 3-11.
- Chiauzzi, E., DasMahapatra, P., & Black, R.A. (2013). Risk behaviors and drug use: A latent class analysis of heavy episodic drinking in first-year college students. *Psychology of Addictive Behaviors, 27*, 974-985. doi:10.1037/a0031570

- Covarrubias, R., & Fryberg, S.A. (2014). Movin' on up (to college): First-generation college students' experiences with family achievement guilt. *Cultural Diversity And Ethnic Minority Psychology*, doi:10.1037/a0037844
- Downey, R. G., & King, C. (1998). Missing data in Likert ratings: A comparison of replacement methods. *Journal of General Psychology*, *125*, 175-191.
- Harrell, Z.T., Huang, J.L., & Kepler, D.M. (2013). Brief report: Affluence and college alcohol problems: The relevance of parent- and child-reported indicators of socioeconomic status. *Journal of Adolescence*, *36*, 893-897. doi:10.1016/j.adolescence.2013.06.009
- Humensky, J.L. (2010). Are adolescents with high socioeconomic status more likely to engage in alcohol and illicit drug use in early adulthood? *Substance Abuse Treatment, Prevention, and Policy*, *5*. doi:10.1186/1747-597X-5-19
- Jenkins, S.R., Belanger, A., Connally, M.L., Boals, A., & Durón, K.M. (2013). First-generation undergraduate students' social support, depression, and life satisfaction. *Journal of College Counseling*, *16*, 129-142.
- Kline, R.B. (2005). *Principles and Practice of Structural Equation Modeling*. NY: The Guildford Press.
- Korcuska, J.S., & Thombs, D.L. (2003). Gender role conflict and sex-specific drinking norms: Relationships to alcohol use in undergraduate women and men. *Journal of College Student Development*, *44*(2), 204-216. doi:10.1353/csd.2003.0017
- Kristjansson, A.L., Sigfusdottir, I.D., Allegrante, J.P., & Helgason, A.R. (2009). Parental divorce and adolescent cigarette smoking and alcohol use: Assessing the importance of family conflict. *Acta Paediatrica*, *98*, 537-542. doi:10.1111/j.1651-2227.2008.01133.x

- Layte, R., Mcgee, H., Rundle, K., & Leigh, C. (2006). Does ambivalence about becoming pregnant explain social class differentials in use of contraception?. *European Journal of Public Health, 17*, 477-482.
- Mason, M.J., Zaharakis, N., & Benotsch, E.G. (2014). Social networks, substance use, and mental health in college students. *Journal of American College Health, 62*, 470-477. doi:10.1080/07448481.2014.923428
- Mehta, S.S., Newbold, J.J., & O'Rourke, M.A. (2011). Why do first-generation students fail? *College Student Journal, 45*, 20-35.
- O'Hare, T., & Sherrer, M.V. (2000). Co-occurring stress and substance abuse in college first offenders. *Journal of Human Behavior in the Social Environment, 3*, 29-44. doi:10.1300/J137v03n01_02
- Ostrove, J.M., & Long, S.M. (2007). Social Class and Belonging: Implications for College Adjustment. *Review of Higher Education, 30*, 363–89.
- Owen, J. J., Rhoades, G. K., Stanley, S. M., & Fincham, F. D. (2007). "Hooking Up" among college students: Demographic and psychosocial correlates. *Archives of Sexual Behavior, 39*, 653-663.
- Primack, B. A. et al. (2013). Tobacco, Marijuana, and Alcohol Use in University Students: A Cluster Analysis. *Journal of American College Health, 60*, 374-386.
- Rubin, M. (2012). Social Class Differences in Social Integration among Students in Higher Education: A Meta-analysis and Recommendations for Future Research. *Journal of Diversity in Higher Education, 5*, 22–38. doi:10.1037/a0026162.
- Rubin, M., Densen, N., Kilpatrick, S., Matthews, K.E., Stehlik, T., & Zyngier, D. (2014). I am

- working-class: Subjective self-definition as a missing measure of social class and socioeconomic status in higher education research. *Educational Researcher*, 43, 196–200. doi:10.3102/0013189X14528373.
- Rubin, M & Wright, C. L. (2015): Time and money explain social class differences in students' social integration at university, *Studies in Higher Education*, doi: 10.1080/03075079.2015.1045481
- Rubin, M., & Wright, C. L. (in press). Age differences explain social class differences in students' friendship at university: Implications for transition and retention. *Higher Education*. doi:10.1007/s10734-014-9844-8.
- Sher, K.J., & Rutledge, P.C. (2007). Heavy drinking across the transition to college: Predicting first-semester heavy drinking from precollege variables. *Addictive Behaviors*, 32, 819-835. doi:10.1016/j.addbeh.2006.06.024
- Snipes, D., & Benotsch, E. G. (2013). High-risk cocktails and high-risk sex: Examining the relation between alcohol mixed with energy drink consumption, sexual behavior, and drug use in college students. *Addictive Behaviors*, 38, 1418-1423.
- Soria, K.M., Stebleton, M.J., & Huesman, R.L. (2013). Class counts: Exploring differences in academic and social integration between working-class and middle/upper-class students at large, public research universities. *Journal of College Student Retention: Research, Theory and Practice*, 15, 215–42. doi:10.2190/CS.15.2.e.
- Stern, M. K., & Wiens, B. A. (2009). Ethnic differences in adolescent perceptions of and attitudes toward substance use. *Journal of Ethnicity in Substance Use*, 8, 54-69. doi: 10.1080/15332640802683417

- Substance Abuse and Mental Health Services Administration. (2014). Results from the 2013 national survey on drug use and health: Summary of national findings. *National Survey on Drug Use and Health (NSDUH)*, 48, Retrieved from store.samhsa.gov/shin/content/NSDUH14-0904/NSDUH14-0904.pdf
- Suerken, C.K., Reboussin, B.A., Sutfin, E.L., Wagoner, K.G., Spangler, J., & Wolfson, M. (2014). Prevalence of marijuana use at college entry and risk factors for initiation during freshman year. *Addictive Behaviors*, 39, 302-307. doi:10.1016/j.addbeh.2013.10.018
- Twala, B. (2009). An empirical comparison for techniques for handling incomplete data using decision trees. *Applied Artificial Intelligence*, 23, 373-405. DOI: 10.1080/08839510902872223.
- Weinberg, M.S., Lottes, I.L., & Gordon, L.E. (1997). Social class background, sexual attitudes, and sexual behavior in a heterosexual undergraduate sample. *Archives of Sexual Behavior*, 26, 625-642.
- Wright, C. L., & DeKemper, D. (in press). Music as a mediator between ethnicity and substance use among college students. *Journal of Ethnicity in Substance Abuse*.