SOCIOLOGICAL VIEWPOINTS

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ISSN: 1060-0877

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Improving Stress Management and Coping Skills in College Students

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ABSTRACT

This study examined college students' perceptions of stress, physical and psychological symptoms experienced as a result of stress, and stress coping skills, as well as the impact of a stress management college course on these variables. A survey of undergraduate college students was conducted at a university in northwest Pennsylvania over a two-year period. College students indicated experiencing moderate levels of stress with accompanying physical and psychological symptoms, and some skills and resources needed to effectively cope with stress. Stress symptoms, such as headaches, insomnia, restlessness, and gastrointestinal problems, were experienced weekly; others, such as tense muscles, anxiety/worry, and fatigue, were experienced several times per week. Frequency of these and other stress symptoms decreased significantly over the course of the semester. Perception of stress was moderate, and decreased significantly over the course of the semester. Stress coping skills and practices improved significantly during the course of the semester. This study showed that college students commonly experience feelings of stress and accompanying symptoms that negatively affect their quality of life. Offering a stress management course to college students can be an effective means of helping students reduce their stress and accompanying symptoms, and improve their stress coping skills.

KEYWORDS: College students; perceived stress; coping skills; anxiety; student health/wellness

INTRODUCTION

Stress is an inevitable part of the human experience. The negative effects of stress on health and well-being has been shown in a growing number of research studies over the past two decades. A survey from the American Psychological Association (2017) showed stress-related physical health symptoms affecting up to 80% of adults, with approximately one-third of adults reporting symptoms such as headaches, feeling overwhelmed, nervousness, anxiety, or sadness. High levels of stress are common in young adults and college students, affecting academic and health variables (Leppink et al. 2016; Ribeiro et al. 2018). Some researchers propose that stress levels will continue to increase among residents of contemporary industrialized societies, as daily and continuous contact with and interaction between people has become the norm (van de Zwan et al. 2015).

Sociological Viewpoints
Volume 36, Issue 1, 4-17

ISSN: 1060-0876/doi:10.26908/3612022_011

THEORETICAL PERSPECTIVE

The lack of stress managment and coping skills in college students was grounded in theory of andragogy. This theory originated in the 1800s, and became popular in the field of education in the 1960s by Malcolm Knowles (Taylor and Kroth 2009). Knowles defined andragogy as “the art and science of helping adults learn,” arguing that instructional methods used with children were not appropriate for adult education (1980: 43). Knowles’ tested his theory in a variety of settings, including business, higher education, healthcare, government, elementary and secondary education (Henschke 2011). Andragogy suggested adult education be based on trust, respect, collaboration, and support (Henschke 2011).

The andragogy model was based on four initial assumptions about adult learners (Knowles 1980). First, a person’s self-concept changes as they age from being dependent to being self-directed. They prefer to be part of the learning process and respected for their previous knowledge and their learning preferences (Fazel 2013). Second, adult learners have more life experience to use as a learning resource. They are interested in the practical application of what they are learning and how it will implemented into their work. The third assumption is readiness to learn. A person’s readiness to learn changes throughout life as their social roles change, such as starting as a new employee and gaining knowledge and experience to move into management. Readiness to learn is also influenced by the student’s perception of relevancy of the topic to be learned (Taylor and Kroth 2009). The fourth assumption is orientation to learn. As a learner matures, they prefer an immediate application of new knowledge and shift to being problem-centered or performance-centered (Fazel 2013). Adults often enter learning activities to gain new knowledge and skills to apply to a current problem they face (Knowles 1980). The fifth assumption suggested that adult learners are internally motivated and have a desire to achieve a goal rather than extrinsically motivated by grades. Recognizing and appreciating the adult student for their successes and contributions to the learning group feeds their intrinsic motivation (Knowles 1984). Finally, the sixth assumption indicated adult learners have a strong need to know the reason for learning a particular concept and its importance (Knowles 1984). When they understand the need to know, they will then put forth time and effort into learning (Fazel 2013).

ANDRAGOGY THEORY AND STRESS MANAGEMENT

This investigation of stress management education and coping skills in college students was viewed through the lens of the andragogy theory. College students are most often young adults with various life stressors and coping skills (experience assumption). The content of the stress management course is immediately applicable to their daily life (readiness to learn and orientation to learn assumptions). It is this researcher’s belief that when college students understand the negative health effects of chronic stress and benefits of healthy stress management and coping techniques, they will view it as valuable to their health and quality of life (need to know assumption).

REVIEW OF RELEVANT LITERATURE

Stress among college students has been increasingly researched over the past several years. This population is studied due to the “high stress period” of their educational experience and their “sociodemographic age span in which stress-realted disorders are more common” (Ribeiro et al. 2018). Common stressors in college students include financial strain (Adams, Meyers, and Beidas 2016; Neveu et al. 2012; Stallman and Hurst 2016), academic demands (Neveu et al. 2012; Stallman and Hurst 2016), work/school/home life balance (Stallman and Hurst 2016), daily hassles (Neveu et al. 2012), social relationships (Neveu et al. 2012), and lack of adequate coping skills (Ribeiro et al. 2018; Stallman and Hurst 2016). First generation college students face additional challenges, as their parents have not earned a 4 year degree and often are unsure of how to assist or advise their child to navigate the university setting (Adams et al. 2016). Sixty-seven percent of adolescents have multiple sleep issues, which impact the body's ability to handle stress and is unknown to the student (Milojevich and Lukowski 2016; Ribeiro et al. 2018). Additionally, moderate to heavy use of coffee and energy drinks further impact the students' ability to get adequate sleep (Sawah et al. 2015). Psychological issues such as perfectionism (Flett et al. 2016), low self esteem (Saleh, Camart, and Romo 2017), and low levels of resilience (American Psychological Association 2021) impact one's coping ability.

The stress of the "24/7 society with continuous contact and interaction between people" contributes to social stressors and sleep disruptions (van der Zwan et al. 2015). A study of first-year college students showed that 52.5% reported one traumatic experience (such as bully victimization or parental psychopathology) prior to college and at least one stressful life event (such as the breakup of a romantic partner or the death of a friend or family member) within the previous 12 months (Ebert et al. 2019). The average prevelance of depression in college students in 30% and can worsen with significant stress (Seo et al. 2018; Regehr, Glancy, and Pitts 2013). The cultural stigma of mental health adds additional stress and creates a barrier to access of services (Adams et al. 2016; van der Zwan et al. 2015; Milojevich and Lukowski 2016). Fifty percent of students who reported continuous mental health issues across assessments did not seek treatment (Milojevich and Lukowski 2016). In addition, the lack of sufficient services on campus and long wait lists deter students from seeking help (Adams et al. 2016; van der Zwan et al. 2015). Students identified as being the most stressed were transfer students, upperclassmen, and those living in off campus housing (Beiter et al. 2015).

There is evidence suggesting that stress can be related to more serious psychological disorders, such as depression or anxiety. A study of French college students found that between 73% and 86% of students reported anxiety, depression, and high levels of psychological distress (Saleh et al. 2017). Leppink et al. (2016) found that severe perceived stress was associated with worse academic achievement and worse physical health, as well as higher rates of psychiatric and impulsive disorders." Additionally, college students prone to depressive symptoms showed increased reactivity to stressors and pressures involving "social evaluation situations," such as giving oral presentations and speeches (Flett et al. 2016). Depression in college students is linked to lower academic performance, increased levels of anxiety, physical illness, decreased physical activity, and increased use of alcohol, tobacco, and other drugs (Ebert et al. 2019; Leppink et al. 2016; Milojevich and Lukowski 2016; Ribeiro et al. 2018; Sawah et al. 2015).

The relationship between stress and quality of sleep has also been examined. This interrelationship can be challenging to manage, as stress often causes poor sleep quality and poor sleep quality often causes stress. A study of podiatric medical students showed that an increased level of perceived stress was a significant predictor of poor sleep quality (Sawah et al. 2015). Milojevich and Lukowski (2016) evaluated the relationship between sleep quality and mental health in university students, noting the frequency of nighttime sleep disruptions was positively associated with increased report of anxiety and somatic symptoms. Poor sleep quality was also associated with increased externalizing of problems (such as aggression), increased internalizing problems (such as anxiety), and somatic complaints (Milojevich and Lukowski 2016). Sleep problems are very prevalent in the college student population; however, students are unaware of the negative consequences (Ribeiro et al. 2018).

A variety of stress interventions and their effectiveness have been examined, and the use of self-help stress interventions may be effective in reducing stress and its related symptoms among college students (van der Zwan et al. 2015). Anxiety and depression symptoms have been shown to decrease significantly with cognitive, behavioral, and mindfulness-based interventions (Regehr et al. 2013). College students given 15 minutes of access to a therapy dogs showed significant reductions in systolic and diastolic blood pressure, and anxiety (Wood et al. 2018).

The effects of physical activity, mindfulness meditation, and heart rate biofeedback as stress management techniques showed significant positive effects on stress, anxiety, depression, and psychological well-being among participants (van der Zwan et al. 2015). Mindful meditation was shown to significantly improve sleep quality, and the number of participants scoring in the clinical range for anxiety was significantly reduced over time (van der Zwan et al. 2015). Mindfulness calms the body's stress response, which can have many positive effects on the physical symptoms of stress (American Psychological Association 2019). Adults ages 45-64 increased their use of meditation three-fold from 2012-2017 (Clarke et al. 2018). Mindfulness meditation has shown to be a promising method for reducing stress and anxiety in college students, as well as overall psychological stress (Bamber and Schneider 2016; Galante et al. 2018; Reavley 2017).

The need and projected benefits of stress management education and skill building has been noted in the literature. One suggestion included universities providing "preventative interventions that have the potential to reach larger groups of students and not merely rely on individual counseling services to meet student needs" (Regehr et al. 2013). Stress management techniques aimed at improving personal resilience, including reactions to failure and interpersonal problems, would benefit college students (Flett et al. 2016; Galante et al. 2018). Perceived stress was identified as an important intervention target, and any prevention or intervention strategies implemented at the college level could improve academic, social, and mental health outcomes among students (Adams et al. 2016). The benefits of such programming goes beyond the individual student, but expands to "enhancing student experience and reducing health service costs resulting from student mental health problems" (Regehr et al. 2013). "It is vital that colleges continually evaluate the mental health of their students and tailor treatment programs to specifically target their needs" (Beiter et al. 2015). Training should be available to students to "develop adaptive coping strategies to prevent the harmful consequences of a high perceived stress level" (Neveu et al. 2012).These coping strategies will continue to benefit students as they transition into the workforce and experience other challenging life transitions (Reavley 2017).

While most of the research examining stress management in college students has focused on one-time or short-term interventions, there is little research examining more long-term stress management education. The current study aimed to address this issue. Thus, the purpose of this study was two-fold: (1) to examine college students' perceptions of stress, physical and psychological symptoms experienced as a result of stress, and stress coping skills, and (2) to explore the impact of a stress management college course on students' perceptions and symptoms of stress and stress coping skills.

MATERIALS AND METHOD

This study was a cross-sectional exploratory examination of a convenience sample of undergraduate college students at a mid-size university in northwest Pennsylvania. Participants included students enrolled in a 200-level stress management course that served as a free elective (not required for the student's major program of study). The primary investigator for this study was the course instructor. Data were comprised of information collected as part of the required course activities. Students completed a packet that included three instruments, including an individual stress profile identifying physical symptoms of stress, a perceived stress scale, and a stress coping self-assessment. Student packets were completed at the beginning and the end of the 15-week course, allowing for a pre-test/post-test study design. Upon completing the post-test, students were given the consent form to participate in the study. Given that study participation was voluntary and unrelated to student grades, the primary researcher/course instructor coded student packets of those who chose to participate after final grades had been submitted. The secondary researcher entered the data from the coded packets to ensure the maximum level of anonymity possible for the participants.

The three instruments used for this study include the Symptoms of Stress Scale, the Perceived Stress Scale, and the Stress Coping Resources Inventory (Matheny and McCarthy 2000). The Symptoms of Stress Scale assesses the frequency of 12 physical and psychological symptoms of stress. Symptoms indicated on the Scale include headaches; tense muscles, sore neck and back; fatigue; anxiety, worry, phobias; difficulty falling asleep; irritability; insomnia; bouts of anger/hostility; boredom, depression; eating too much or too little; diarrhea, cramps, gas, constipation; and restlessness, itching, tics. Each of the seven frequency choices on the instrument was assigned a score by the researchers to allow for quantitative analysis. The frequency choices, with their assigned scores, included almost all day, every day (score of 1); once or twice daily (score of 2); every night or day (score of 3); 2-3 times per week (score of 4); once a week (score of 5); once a month (score of 6); and never (score of 7).

The Perceived Stress Scale is designed to help the taker understand how different situations affect one's feelings and perceived stress (Matheny and McCarthy 2000). Takers are instructed to assign a value of 0 (never), 1 (almost never), 2 (sometimes), 3 (fairly often), or 4 (very often) to each of 10 questions. The introduction "In the last month, how often have you…" starts the beginning of each question. Questions include the following: (1) …been upset because of something that happened unexpectedly; (2) …felt that you were unable to control he important things in your life; (3) …felt nervous and stressed; (4) …felt confident about your ability to handle your personal problems; (5) …felt that things were going your way; (6) …found that you could not cope with all the things that you had to do; (7) …been able to control irritations in your life; (8) …felt that you were on top of things; (9) …been angered because of things that happened that were outside of your control; and (10) …felt difficulties were piling up so high that you could not overcome them. After scoring all 10 questions, takers are instructed to reverse their scores on questions 4, 5, 7, and 8, and then add up their scores. Final total scores may range from 0 to 40, with higher scores indicating higher perceived stress. The Perceived Stress Scale designates scores in the 0-13 range as "low stress;" scores of 14-25 as "moderate stress;" and scores of 26-40 as "high stress." To allow for quantitative data analyses, the researchers assigned the "low stress" range a score of 1; the "moderate stress" range a score of 2; and the "high stress" range a score of 3.

The Stress Coping Resources Inventory is a 32-question survey that assesses the degree to which an individual has behaviors or beliefs that relate to healthy coping (Matheny and McCarthy 2000). Each question has four answer options that rates, on a four-point scale, the taker's responses. The Stress Coping Resources Inventory scoring legend allows the taker to assess their coping score on each of six scales (Wellness; Thought Control; Active Coping; Social Ease; Tension Reduction; and Spiritual Practice), followed by a total overall coping score. The Wellness scale is comprised of seven questions, and includes questions such as "how frequently do you moderately exercise" and "how often do you get a full, restful night of sleep." The Thought Control scale is comprised of six questions, and includes questions such as "when highly stressed, how capable are you of changing your thinking to calm down" and "when things are not going well, how likely are you to view the situation as being temporary rather than permanent." The Active Coping scale contains seven questions, including questions such as "when confronted with a stressful situation, how likely are you to wait passively for events to develop rather than to take charge" and "to what extent do you believe that events in your life are merely the result of luck, fate, or chance." The Social Ease scale contains six questions, and includes questions such as "how easily do you make friends in a strange situation" and "how often are you confused about the intentions of others toward you." The Tension Reduction scale is comprised of two questions, and includes the questions "to what extent are you aware of practical, healthy ways of relaxing" and "how frequently do you pursue some highly relaxing practice." The Spiritual Practice scale contains four questions, including questions such as "how connected do you feel to your conception of a higher power or to a worthy cause" and "to what extent do you believe your life has purpose." Each scale score, as well as the overall score, yields a final result of anywhere from 1 to 4. According to the Stress Coping Resources Inventory, a score of 3.5 suggests that the taker is a "superior stresscoper;" a score of 2.5-3.4 describes a person who is an "above average stresscoper;" a score of 1.5-2.4 describes an "average stresscoper;" and a score of less than 1.5 suggests that the taker may be a "below average stresscoper."

This study received IRB approval from the University-Wide Human Subjects Review Board prior to data collection. Data were analyzed using SPSS 27.0 for Windows. Statistical analyses consisted of frequency and *t* test analyses.

RESULTS

A total of 264 undergraduate male and female students were asked to participate in the study at the conclusion of the course. Thirty two surveys were incomplete/consent form not returned; and 0 surveys were completed by graduate students. A total of 232 surveys were therefore used for this study; 82 (35.3%) respondents were male and 150 (64.7%) respondents were female. The ages of the participants ranged from 18 to 53, with a median age of 20.0. Other demographic characteristics of the participants are presented in Table 1.

Table 1 – Demographic Characteristics of Participants

Demographic N=232 Characteristic	Total n (%)
Gender	
Male	82 (35.3)
Female	150 (64.7)
Age (years)	
19-21	74 (31.9)
22-23	129 (55.8)
24 and up	29 (12.3)
Academic Major	
Health & Physical Education	65 (27.9)
Social Work	29 (12.7)
Business	20 (8.8)
Biology & Pre-professional	18 (7.8)
Criminal Justice	15 (6.4)
Psychology	15 (6.4)
Total of all other majors	70 (30.0)
Academic standing	
Freshman	10 (4.4)
Sophomore	43 (18.4)
Junior	81 (34.8)
Senior	98 (42.4)

On the Symptoms of Stress Scale, the most common stress symptom reported by the participants was anxiety/worry (pre-test score of 3.7), followed closely by tense or sore muscles (pre-test score of 3.9). Both of these scores indicate that students experienced these symptoms, on average, every 1-3 days. Symptoms with pre-test scores ranging from 4.0 (2-3 times per week) and 5.0 (once per week) included fatigue (4.1), difficulty falling asleep (4.2), eating too much/too little (4.3), irritability (4.4), headaches (4.8), and boredom and/or depression (4.8). Symptoms with pre-test scores ranging from 5.0 (once per week) and 6.0 (once per month) included anger/hostility (5.2), insomnia (5.4), gastrointestinal problems (5.4), and restlessness/itching/tics (5.5). Post-test scores for all 12 stress symptoms indicated improvement (in the form of decreased frequency) over the course of the semester. Eleven of the stress symptoms showed statistically significant change at the $p<.01$ level, while one stress symptom showed statistically significant change at the $p<.05$ level. Table 2 illustrates these and other findings from the Symptoms of Stress Scale.

Table 2 – Frequency of Stress Symptoms Among Participants

Symptom	Pre-test score	Post-test score
Headaches**	4.8	5.1
Tense or sore muscles**	3.9	4.5
Fatigue**	4.1	4.6
Anxiety/worry**	3.7	4.5
Difficulty falling asleep**	4.2	4.7
Irritability**	4.4	5.1
Insomnia**	5.4	5.8
Anger/hostility**	5.2	5.8
Boredom, depression**	4.8	5.3
Eating too much/too little**	4.3	4.9
Gastrointestinal problems*	5.4	5.7
Restlessness/itching/tics**	5.5	5.9

Statistically significant at *$p<.05$, **$p<.01$

The Perceived Stress Scale scores showed an overall decrease in perceived stress among the participants over the course of the semester. The average pre-test score among participants was 19.86, indicating a moderate stress level in the middle of the 14-26 score range for that stress level designation. The average post-test score among participants was 15.42, indicating a moderate stress level at the lower end of the 14-26 score range for that stress level designation. This change in Perceived Stress Scale scores was statistically significant at the $p<.01$ level.

On the pre-test, students scored as "above average" stress copers on the Stress Coping Resources Inventory in all six categories; stress coping categories showed scores ranging from 2.5 to 2.8, with an overall score of 2.7. Post-test scores increased in all six categories, with scores ranging from 2.7 to 3.1, and an overall score of 2.9. These increases in Stress Coping Resources Inventory scores indicated that students' stress coping resources and skills improved over the course of the semester. One stress coping category (spiritual practice) showed an increase that was not statistically significant, while two categories (wellness and social ease) showed statistically significant improvements at the $p<.05$ level. Three of the categories (thought control, active coping, and tension reduction), as well as the overall score, showed statistically significant improvements at the $p<.01$ level. These results, with additional details, are illustrated in Table 3.

Table 3 – Participant Scores on the Stress Coping Resources Inventory

Stress Coping Category	Pre-test score	Post-test score
Wellness*	2.8	2.9
Thought Control**	2.5	2.8
Active Coping**	2.6	2.7
Social Ease*	2.8	2.9
Tension Reduction**	2.6	3.1
Spiritual Practice	2.6	2.8
Overall Score**	**2.7**	**2.9**

Statistically significant at *p<.05, **p<.01

DISCUSSION

Although there has been an increasing level of awareness about the negative effects of stress and the need for people to practice effective stress management, there remains clear evidence of the need for continued educational and practical programming about stress education, stress management, and coping skills. Findings from this study contribute to the current body of research indicating many college students experience moderate to severe levels of stress with accompanying physical and psychological symptoms that negatively impact their lives on a regular basis, and they often lack the skills and resources needed to effectively cope with stress (Ebert et al. 2019; Leppink et al. 2016; Milojevich and Lukowski 2016; Ribeiro et al. 2018; Sawah et al. 2015). Evidence is presented showing a college course in stress management reduced the perception of stress, stress symptoms, and improved stress coping skills among college students.

Post-test scores for all 12 stress symptoms on the Symptoms of Stress Scale indicated improvement (in the form of decreased frequency) over the course of the semester. Eleven stress symptoms (headaches, tense/sore muscles, fatigue, anxiety/worry, difficulty falling asleep, irritability, insomnia, anger/hostility, boredom/depression, eating too much/too little, and restlessness) showed statistically significant change (p<.01). One stress symptom (gastrointestinal problems) showed statistically significant change at the p<.05 level. Knowing the signs and symptoms of stress reactivity in their bodies assisted students in identifying a stress reaction and modifying or managing the stress response effectively.

Perceived stress among the participants decreased significantly (p<.01) over the course of the semester, as illustrated through the results of the Perceived Stress Scale. This result, in conjunction with the improvement of stress symptoms, supports the findings of Leppink et al. (2016) indicating that perceived stress was associated with worse physical health. This study is also consistent with Milojevich and Lukowski (2016), who found that poor sleep quality was associated with an increase in anxiety and somatic symptoms. Perceived stress was identified as an important intervention target, and any prevention or intervention strategies implemented at the college level could improve academic, social, and mental health outcomes among students (Adams et al. 2016).

Students' stress coping resources and skills improved over the course of the semester, as indicated by an increase in Stress Coping Resources Inventory scores. The wellness category (exercise, sleep, etc.) and the social ease category (making friends, identifying intention, etc.) showed statistically significant improvements at the $p<.05$ level. Three categories (thought control, active coping, and tension reduction), as well as overall scores, showed statistically significant improvements at the $p<.01$ level. These coping skills cross many areas of the students' lives and empowers them to take an active role in their well being.

There were several limitations to this study that may affect the validity of the findings. The participants for this study consisted of a convenience sample of students, and may not be applicable to college students in general. A second limitation is that of any survey research, as the results of this study are dependent on the accuracy of the participants' responses, and response or recall bias is certainly a possibility. Third, the gender distribution of the study participants does not represent the general population. This study had 64.7% female and 35.3% male participation verus the US population of 50.52% female and 49.48% male (United Nations 2019). A final limitation is that because the survey instruments were completed as part of a college course requirements and not anonymous at the time of consent, participants may have provided inaccurate information due to social desirability bias.

Results from this study clearly reinforce the need for stress management educational programming on college campuses. Campus policies and practices should be routinely evaluated for current best practices as noted in the literature. School officials can review academic programs and the campus learning environment to identify major academic stressors for students and implement systematic change to benefit the students, staff, and faculty (Neveu et al. 2012).

Prevention and intervention strategies implemented at the college level can help to improve student success as well as social and mental health outcomes (Adams et al. 2016; Beiter et al. 2015; Flett et al. 2016; Galante et al. 2018; Neveu et al. 2012). Colleges and universities are "promising venues" for prevention and intervention of mental health disorders and as opportunities "to intervene before mental health difficulties or attrition occurs" (Adams et al. 2016). Openly accessible programming targeting the "well student" population has been suggested to support all students on campus, not exclusively the ones with risk factors for stress-related issues (Galante et al. 2018). The literature is mixed on whether to focus on incoming freshmen, high risk students, or the school's general population.

Efforts to routinely evaluate the mental health of the student population and adapting programming to meet the specific student needs are encouraged (Adams et al. 2016; Beiter et al. 2015). This will require additional staff and resources to collect and evaluate such data, as well as develop, implement, and evaluate programming. Given the high rates of perceived stress and somatic stress symptoms in this population, it is unrealistic to expect the campus counseling services to meet this demand (Regehr et al. 2013). Additional therapists are needed for those students with mental health disorders, while the general population can benefit from the variety of programs to promote healthy coping skills and destigmatize the difficulty handing stress as being 'weak.' Collaborations between the student health center, counseling staff, as well as nursing, psychology, counseling, health education, and social work programs could be established.

Programming on college campuses should take a braod approach to teaching students stress management skills. Learning the physiology of the stress response helps them to better understand how their body responds to stress and that it varies between individuals. Normalizing the human experience of facing stressful situations reduces the shame and reluctance to ask for help. Activities surrounding self esteem, self efficacy, building resilience, and reacting to failure have been suggested by the literature (Flett et al. 2016; Saleh et al. 2017). Self reflection is necessary to see what techniques the students have developed over the course of their life, which ones are effective, and which ones no longer serve the student. Exposing students to a wide variety of techniques and allowing them experience and practice them empowers them to choose strategies that best work for them and their lifestyle. Using such self-help interventions also help those waiting to begin professional counseling or who are limited based on the cost of mental health care (van der Zwan et al. 2015). Providing designated campus space for quiet and calm would encourage students to participate and benefit from the interventions, such as the mood rooms presented in an episode of the popular tv program 'Grey's Anatomy.'

Based on the findings from this study, it is evident that college courses (and perhaps other, shorter-term educational and intervention programs) focusing on stress management are effective in helping students mitigate the negative effects of stress in their lives, ultimately improving their health and well-being. Expanding programming will require additional financial and facility investment. Funding sources will be needed for student populations to access programming and interventions (Reavley 2017). The overlapping impact of improved social and mental health outcomes on student attrition rates and academic success makes this additional investment a promising endeavor.

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Intersectional Analyses Exploring Population-Level Body Mass Index in the Period of the Great Recession

Aliza D. Richman

ABSTRACT

Economic shocks such as the Great Recession invoke psychosocial stress. Unemployment rates increase and economic insecurity heightens, especially among the poor. Individuals may adopt unhealthy coping behaviors, potentially causing weight gain or loss. The present study examines population-level heterogeneity in body mass index at the intersection of socioeconomic status, gender, race, and ethnicity during the period of the Great Recession. Using data from the National Health and Nutrition Examination Survey 2003-2014, findings reveal increases in body mass index during the period of the Great Recession among the following five demographic subgroups: poor white males and females, poor Hispanic males and females, and non-poor black females. Poor white women experience the largest gains in body mass index during the study period, followed by non-poor black women. Adverse health behaviors partially mediate, but do not fully attenuate the elevated BMI observed among these demographic subgroups. These findings suggest that the biosocial health effects of recessions are complex and vary on account of socioeconomic status, gender, race, and ethnicity.

KEYWORDS: Great Recession; body mass index; racial/ethnic inequality; gender; intersectionality; socioeconomic status; alcohol use; smoking; macroeconomic conditions; health

1. INTRODUCTION

Between December 2007 and June 2009, the U.S. and many global marets underwent a period of economic decline known as the Great Recession. Unemployment rates in the U.S. rose from 5 percent to a peak of 10 percent during the height of the recession in October 2009 (U.S. Bureau of Labor Statistics 2012). Concordantly, the steady growth in median household income in the decade prior to the Great Recession stagnated in 2008 ($50,303) and reached a low in 2010 ($49,276) (U.S. Census Bureau 2017).

Not all sociodemographic groups experience the economic hardships of recessions equally. During the Great Recession, men were more likely than women to be unemployed (10.5% vs. 8.6%) (U.S. Bureau of Labor Statistics 2017b). Though men face higher risk of negative recessionary events, they also experience recovery sooner (Hoynes, Miller, and Schaller 2012). In 2010, non-Hispanic black adults experienced the highest unemployment rates

Sociological Viewpoints
Volume 36, Issue 1, 18-43

ISSN: 1060-0876/doi:10.26908/3612022_013

(16%) relative to Hispanics (13%) and non-Hispanic whites (8.7%) (U.S. Bureau of Labor Statistics 2012, 2017a). Non-Hispanic black males were most affected with an unemployment rate spiking to 18.4 percent (U.S. Bureau of Labor Statistics 2017a). Compared to whites, non-Hispanic blacks and Latinos experience more recession hardships such as job loss, reduced work hours, and home foreclosure (Zemore et al. 2013). Further, lower-income households bear the steepest consequences of recessions, experiencing greater relative income losses and a longer duration to economic recovery (Acs 2008).

Previous research highlights the cyclical relationship between macroeconomic forces and health behaviors with mixed findings. Some studies note the positive influence of recessions on health via reductions in smoking and alcohol use on account of less discretionary funds, and increases in physical activity due to more leisure time (Ruhm 2000; Ruhm and Black 2002). In contrast, to cope with heightened psychosocial stress related to unemployment uncertainty, individuals may adopt adverse health behaviors such as alcohol use, decreasing physical activity, smoking, and consuming less healthy diets (Dávalos, Fang, and French 2011; Dave and Kelly 2012; Dee 2001; Mohammad Ali and Lindström 2006; Rosenthal et al. 2012). Engagement in these behaviors differs by sociodemographic characteristics. Non-Hispanics blacks are more at risk for developing alcohol problems due to recessions and gaining weight when unemployment rates rise (Charles and DeCicca 2008; Zemore et al. 2013). Further, prior research suggests recession hardships increase waist circumference (Kirsch and Ryff 2016) and living among home foreclosures raises risk of weight gain (Arcaya et al. 2013). The Great Recession, therefore, potentially may exacerbate existing public health crises, such as the obesity epidemic, particularly among those most vulnerable in society.

1.1. Obesity

Approximately 37.7 percent of the U.S. adult population has a body mass index (BMI) above 30 kg/m^2, the clinical definition of obesity (NIDDK 2017). Obesity increases risk for several top causes of death, including heart disease, certain forms of cancer, chronic lower respiratory diseases, and diabetes (Calle and Thun 2004; Eckel 1997; National Heart, Lung, and Blood Institute 2013; Poulain et al. 2006; Wolin, Carson, and Colditz 2010). Obese individuals experience comorbidities, increasing their health care expenditures relative to those of normal weight. Estimates from the 2006 Medical Expenditure Panel Survey indicate that annual health care costs for obese adults totaled $303.1 billion compared to $259.6 billion in expenses for those of normal weight (Stagnitti 2009). With trends indicating an increase in the prevalence of obese adults in the U.S., it is crucial to understand and identify the interplay between the biological and social underpinnings of this epidemic (NIDDK 2017).

Obesity prevalence varies by social demographic characteristics such as gender, race, and ethnicity. In the U.S., women experience obesity at higher rates than men (Ogden et al. 2014). Non-Hispanic blacks have the highest prevalence of obesity (47.8%) followed by Hispanics (42.5%) and non-Hispanic whites (32.6%) (Ogden et al. 2014). Examining the intersection of race, ethnicity, and gender illustrates further population heterogeneity in obesity prevalence. Non-Hispanic black women (56.6%), Hispanic women (44.4%), Hispanic men (40.1%), and non-Hispanic black men (37.1%) all experience higher rates of obesity relative to non-Hispanic white women (32.8%) and men (32.4%) (Ogden et al. 2014).

The association between socioeconomic status and obesity varies by gender. For females, income and education are inversely related to obesity prevalence, with the highest income earners and most educated having lower levels of obesity (Ogden et al. 2014). The relationship between socioeconomic status and obesity among men varies by race and ethnicity. Whereas non-Hispanic white males experience consistent levels of obesity across income brackets, obesity rates are highest among higher income non-Hispanic black and Mexican American males (Ogden et al. 2014). The complex associations among sociodemographic factors and obesity highlight the need for analyses sensitive to intersectional pathways.

1.2. Theoretical Framing and Intersectionality

Differential access to health promoting resources such as knowledge, power, prestige, and social connections underlie the association between socioeconomic status and health outcomes (Link and Phelan 1995; Phelan, Link, and Tehranifar 2010). The pervasive nature of this association suggests that those with more access to flexible resources maintain better health than those lower in the social hierarchy. Fundamental cause theory articulates that individuals' abilities to evade unhealthy environments and utilize health promoting resources relies on their socioeconomic status, making it a fundamental cause of disease (Phelan et al. 2010).

During recessions, several factors affect socioeconomic status, underlying fundamental cause theory, such as: home foreclosures, job insecurity and loss, difficulty paying bills, devaluation of assets and wealth, reduced work hours, and fewer societal resources for welfare programs (Modrek et al. 2013). These social conditions expose individuals to greater psychosocial stress, increasing risk for negative health events and outcomes (Burgard and Kalousova 2015; Houle 2014; Kirsch and Ryff 2016; Margerison-Zilko et al. 2016; Modrek et al. 2013).

Race and ethnicity expound similar rationales as fundamental causes of disease given persistent associations with health despite varying cultural, geographical, and historical contexts (Schnittker 2007; Williams 1999). During the Great Recession, racial minority neighborhoods (predominantly Hispanic and/or black) experienced the highest rates of housing foreclosures (Hall, Crowder, and Spring 2015). Predatory lenders targeted minority communities making segregation a confounding factor of the housing crisis (Rugh and Massey 2010). Thus, structural socioeconomic and racial stratification processes have the capacity to predispose individuals to adverse social conditions, ultimately influencing morbidity, an important, focal consideration.

Social statuses, like race and ethnicity, gender, and socioeconomic status, pattern daily experiences by interacting with one another and compounding cumulative effects (Choo and Ferree 2010; Collins 2000; Springer, Hankivsky, and Bates 2012). Furthermore, individuals of similar socioeconomic status experience within-group heterogeneity in life events due to race, ethnicity, and gender (Miech et al. 2011). Interacting social forces produce differential exposure to inequality, influencing psychosocial attitudes, and ultimately, health (Collins 2000; Kane 2000; Springer et al. 2012). The intersectionality perspective strengthens fundamental cause theory by accounting for the simultaneous and multiplicative effects of sociodemographic factors on health outcomes (Miech et al. 2011; Richman 2017; Springer et al. 2012).

Human bodies incrementally adapt to adverse, chronic social conditions (Geronimus et al. 2006; Krieger 2005; Willson, Shuey, and Elder Jr. 2007). Known as 'weathering,' poor social conditions become embodied, inducing psychosocial stress and, over time, elevating risk for chronic disease (Ben-Shlomo and Kuh 2002; Galobardes, Lynch, and Davey Smith 2004; Geronimus et al. 2006; Pearlin et al. 2005). Researchers note the significant effects of recessions on psychosocial stress via increased work-related stress, unemployment, economic insecurity, and home foreclosure (Burgard, Ailshire, and Kalousova 2013; Burgard, Brand, and House 2009; Burgard and Kalousova 2015; Houdmont, Kerr, and Addley 2012). Furthermore, the physiological effects of social disadvantage accumulate with age, becoming further amplified in the presence of multiple, concurrent adverse social conditions (Choo and Ferree 2010; Collins 2000; Springer et al. 2012).

1.3. Overview

The present study examines the interactive effects of race, ethnicity, gender, and socioeconomic status on BMI during the Great Recession among a representative sample of working-aged adults in the U.S. To reflect the disparate sociodemographic pathways individuals experience, we employ a categorical approach which focuses on "the complexity of relationships among multiple social groups within and across analytical categories" (McCall 2005, pg. 1786). We contribute to the aforesaid literature by analyzing how multiple social disadvantages interact to affect BMI levels before, during, and after the period of the Great Recession. We can therefore ascertain the health consequences of societal economic collapse, with sensitivity to the disparate pathways individuals experience on account of intersecting sociodemographic factors. Further, we examine indicators of the Great Recession and individual health behaviors as potential mediators of the focal association.

This study addresses the following research questions:

1. Prior to the Great Recession, to what extent do body mass index levels vary in the U.S. population at the intersection of race/ethnicity × socioeconomic status for each gender?
2. Do body mass index levels fluctuate within each race/ethnicity × socioeconomic status demographic subgroup across the study period (i.e. pre-recession, during the recession, and post-recession)?
3. What effect does individual employment status and the associated demographic subgroups' national unemployment rate have on the association between race/ethnicity × socioeconomic status and body mass index for each gender in the period surrounding the Great Recession?
4. To what extent do adverse health behaviors like smoking and alcohol use, potentially adopted as coping mechanisms during the Great Recession, mediate the focal association?

2. METHODS

2.1 Data

NHANES collects data from in-person interviews, physician-performed physical examinations, and laboratory testing utilizing a complex, multistage probability sampling design across all fifty states and the District of Columbia (Johnson, Paulose-Ram, and Ogden 2013; Zipf, Chiappa, and Porter 2013). This study employs data from six continuous, cross-sectional National Health and Nutrition Examination Survey (NHANES) years: 2003-2004, 2005-2006, 2007-2008, 2009-2010, 2011-2012, and 2013-2014. Pre-recession data combines two continuous NHANES datasets, spanning years 2003-2006. The next four years, between 2007-

2010, constitute the period of the Great Recession. Post-recession data sequentially follows the period of the Great Recession from 2011 to 2014. Merging multiple survey years strengthens statistical power when conducting statistical analyses stratified by gender, socioeconomic status, and race and ethnicity.

Appending NHANES data, we derive data on national unemployment rates from the Bureau of Labor Statistics (BLS 2022). National unemployment rates are noted for each race/ethnicity × gender subgroup, monthly from 2003 to 2014. To sync BLS data with NHANES, we average six-month national unemployment rates for each race/ethnicity × gender to align with respondents' date of interview. NHANES provides respondents' date of interview within a six-month span and specific year in one of two categories: November 1 through April 30 or May 1 through October 31. The resulting merged BLS data corresponds to the associated national unemployment rate for each demographic subgroup at the time of respondents' interview.

Our sample includes those of working-age between 25 and 66 years, not pregnant, and self-identifying as non-Hispanic white, non-Hispanic black, or Hispanic (native- and foreign-born) (*note*: NHANES did not begin collecting data specifically on non-Hispanic Asian Americans until the 2011-2012 survey cycle and, therefore, are excluded from the study). We utilize survey weights to account for NHANES complex survey design; the resulting analyses represent the U.S.'s civilian, non-institutionalized population for the stated demographic subgroups. The final analytic sample includes 16,484 individuals, of which 8,221 are females and 8,263 are males.

2.2. Body Mass Index

The outcome variable is a continuous measure of BMI, calculated as weight (kg) divided by height (m^2). Clinically speaking, BMI categorical cutoffs indicate the presence of underweight (<18.5 kg/m^2), normal weight (18.5-24.9 kg/m^2), overweight (24.9-29.9 kg/m^2), and obese (≥30 kg/m^2) individuals. Although not a direct measure of body fatness, BMI correlates with body fatness indicators such as percent body fat, skinfold thickness, and waist circumference, making it a valid comparable measure (Flegal and Graubard 2009; Steinberger et al. 2005; Sun et al. 2010). Higher BMI is associated with many age-related chronic diseases including: heart disease, stroke, type 2 diabetes, osteoarthritis, and some cancers- breast, colon, endometrium, esophageal, kidney, gallbladder, and liver (Bhaskaran et al. 2014; Bogers et al. 2007; Calle and Thun 2004; National Heart, Lung, and Blood Institute 2013). Further, higher BMI elevates risk for mortality (Flegal and Graubard 2009; National Heart, Lung, and Blood Institute 2013). NHANES participants have their height and weight recorded as part of the body measure examination in the Mobile Examination Center (MEC).

2.3. Intersecting Sociodemographic Characteristics

The focal predictor variable focuses on three social and demographic characteristics: gender, socioeconomic status, and race and ethnicity. Employing McCall's (2005) categorical approach, we operationalize these intersecting sociodemographic factors into twelve subgroups: poor and non-poor white males and females, poor and non-poor black males and females, and poor and non-poor Hispanic males and females. Respondents' gender is coded as male or female. NHANES' poverty income ratio indicates socioeconomic status by specifying the poverty threshold by family size, with one or below indicating those living below the federal poverty line. We characterize socioeconomic disadvantage, being poor, as a poverty income ratio less than two (twice the federal poverty line) to reflect the substantial economic hardship faced by many low-income Americans living above the federal poverty line. Respondents self-report their race and ethnicity during the questionnaire portion of the NHANES interview. We categorize respondents as non-Hispanic white (here on referred to as white), non-Hispanic black (here on referred to as black), and Hispanic.

2.4. Mediators

We explore two potential mediators to ascertain the extent to which the Great Recession and health behaviors underlie the focal association. Employment status and national unemployment rates comprise indicator proxies for the Great Recession. Employed individuals report working at a job or business within the past week of their interview. National unemployment rates are noted for each race/ethnicity × gender subgroup, utilizing a six-month average to align with the time of respondents' interviews. Analyzed health behaviors include smoking and alcoholic drinking habits. Respondents may be categorized as: those that never smoked or quit smoking (reference category); those that smoke occasionally (five or less cigarettes per day on average [Schane, Ling, and Glantz 2010]); and regular smokers (six or more cigarettes per day on average). Alcohol consumption definitions vary by gender with female heavy drinkers consuming two or more alcoholic beverages daily and males consuming three or more. Female moderate drinkers consume one drink per day, whereas male moderate drinkers imbibe on two alcoholic drinks daily. Those that do not drink alcohol serve as the reference category.

2.5. Covariates

We control for three additional factors with noted associations with BMI, including: age, educational attainment, and nativity × acculturation. NHANES researchers recorded age, in years, at the time of interview. Respondents note their highest level of education completed. We categorize educational attainment as less than high school, high school, and more than high school. Given that immigrants, on average, have lower BMI than our native born population (Barrington et al. 2010; Cunningham, Ruben, and Venkat Narayan 2008), we control for nativity × acculturation utilizing an interaction term between binary-coded foreign born and the number of years lived in the U.S. This combination of variables operates as an internal moderator for the effects of immigration and assimilation (Mirowsky 2013).

2.6. Sample

Table 1 reports the absolute number of respondents in each race/ethnicity × gender × socioeconomic subgroup before, during, and after the Great Recession. For both genders, non-poor whites comprise the largest subsample of NHANES participants. The recession-specific demographic subgroup with the fewest participants is post-recession, non-poor Hispanic males and females, illustrating the relative rarity of this combination of social statuses.

Table 1. Weighted Sample Recession Distribution by Race and Ethnicity, Gender, and Socioeconomic Status (Absolute *N*s and Percentages), NHANES 2003-2014

	Non-Poor			**Poor**			
	White	**Black**	**Hispanic**	**White**	**Black**	**Hispanic**	
Females							**Total**
All Ages	30.50%	12.24%	10.94%	17.95%	12.33%	16.04%	100.00%
n	2507	1,006	899	1,476	1,014	1,319	8221
Pre-Recession	36.79%	13.33%	9.39%	14.37%	11.88%	14.24%	100.00%
n	886	321	226	346	286	343	2408
Recession	29.62%	10.49%	11.79%	18.75%	10.27%	19.07%	100.00%
n	932	330	371	590	323	600	3146
Post-Recession	25.83%	13.31%	11.32%	20.25%	15.19%	14.10%	100.00%
n	689	355	302	540	405	376	2667
Total	2507	1006	899	1476	1014	1319	8221
Males							Total
All Ages	32.17%	13.31%	11.52%	17.40%	10.32%	15.27%	100.00%
n	2,658	1,100	952	1,438	853	1,262	8263
Pre-Recession	37.83%	15.03%	10.53%	13.77%	8.56%	14.28%	100.00%
n	959	381	267	349	217	362	2535
Recession	31.82%	11.79%	12.79%	16.97%	9.37%	17.26%	100.00%
n	988	366	397	527	291	536	3105
Post-Recession	27.11%	13.46%	10.98%	21.43%	13.15%	13.88%	100.00%
n	711	353	288	562	345	364	2623
Total	2658	1100	952	1438	853	1262	8263

2.7. Analytical Strategy

We use age-adjusted ordinary least squares (OLS) multiple regression models to explore the joint effects of race and ethnicity, gender, and socioeconomic status on BMI in the period before, during, and after the Great Recession. We further explore linear combinations of OLS regression coefficients using Stata's "lincom" command to identify significant differences in BMI within race/ethnicity × socioeconomic status demographic subgroups by gender.

We conduct separate analyses for men and women given the disparate pathways by which men and women embody social stress (Connell 2012). To examine the relationship between race/ethnicity × socioeconomic status on BMI during the period of the Great Recession, we perform age-adjusted, gender-specific analyses for working-aged adults (25-66 years old), controlling for educational attainment and nativity × acculturation (Baseline Model). The second statistical model builds on the baseline model to examine employment status and demographic-specific national unemployment rate as potential mediators of the focal association (Recession Model). The final model includes indicators of alcohol use and smoking behavior to evaluate the extent to which the effect of race/ethnicity × socioeconomic status on BMI during the period of the Great Recession may be explained by deleterious health behaviors

(Health Behaviors Model). Our statistical models met checks for linearity, normally distributed errors, and uncorrelated errors. All analyses were performed using Stata 17 (StataCorp. 2022).

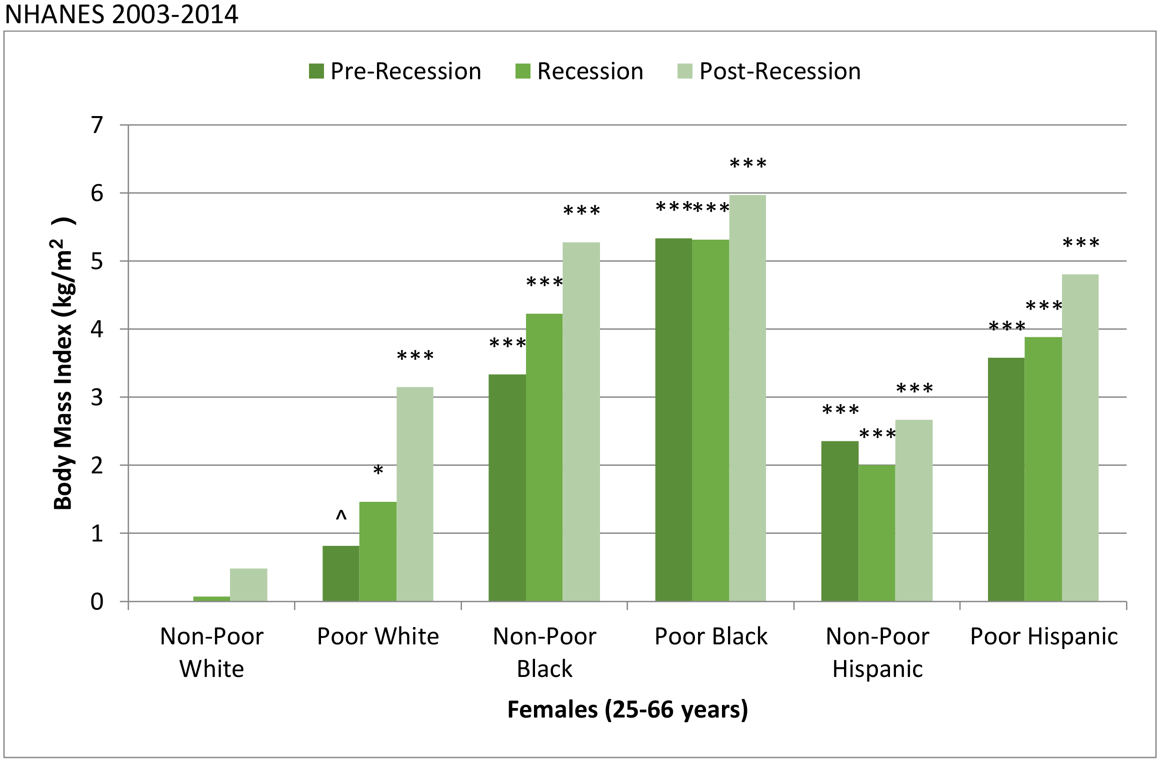
3. RESULTS

3.1. Race/Ethnicity × Socioeconomic Status and Body Mass Index

Table 2 and Figure 1 present results from multivariate OLS regression models estimating the joint effects of race and ethnicity, socioeconomic status, and recession period on BMI (kg/m^2) by gender compared to pre-recession, non-poor whites. Among females aged 25-66 years, pre-recession, non-poor white women, our reference group, have the lowest BMI (Table 2 Model 1 and Figure 1). Poor and non-poor black, poor and non-poor Hispanic, and poor white women experience elevated BMI throughout the study period compared to the reference group. Poor black women in the period following the recession record the largest disparity in BMI (5.970 kg/m^2, $p < 0.001$).

Compared to working-aged females, males in this age demographic have less variation in BMI on average (Table 2 Model 4 and Figure 2). Regardless of proximity to the Great Recession, non-poor black, poor Hispanic, and non-poor Hispanic males' BMI consistently stands higher than their non-poor white counterparts. In contrast, poor white males have significantly lower BMI before the recession (-0.917 kg/m^2, $p < 0.01$). We observe the most elevated BMI for working-aged males among poor Hispanic men post-recession (2.141 kg/m^2, $p < 0.001$).

Fig. 1. Sociodemographic OLS Coefficients Predicting Body Mass Index among Females aged 25-66 years, NHANES 2003-2014



Note: Pre-recession, non-poor white females serve as reference categories. Asterisks denote significant differences between each subgroup and the reference category: ^p<0.10. *p < 0.05. **p < 0.01. ***p < 0.001

Table 2. Ordinary Least Squares Regression Models Predicting Body Mass Index (kg/m^2), NHANES 2003-2014

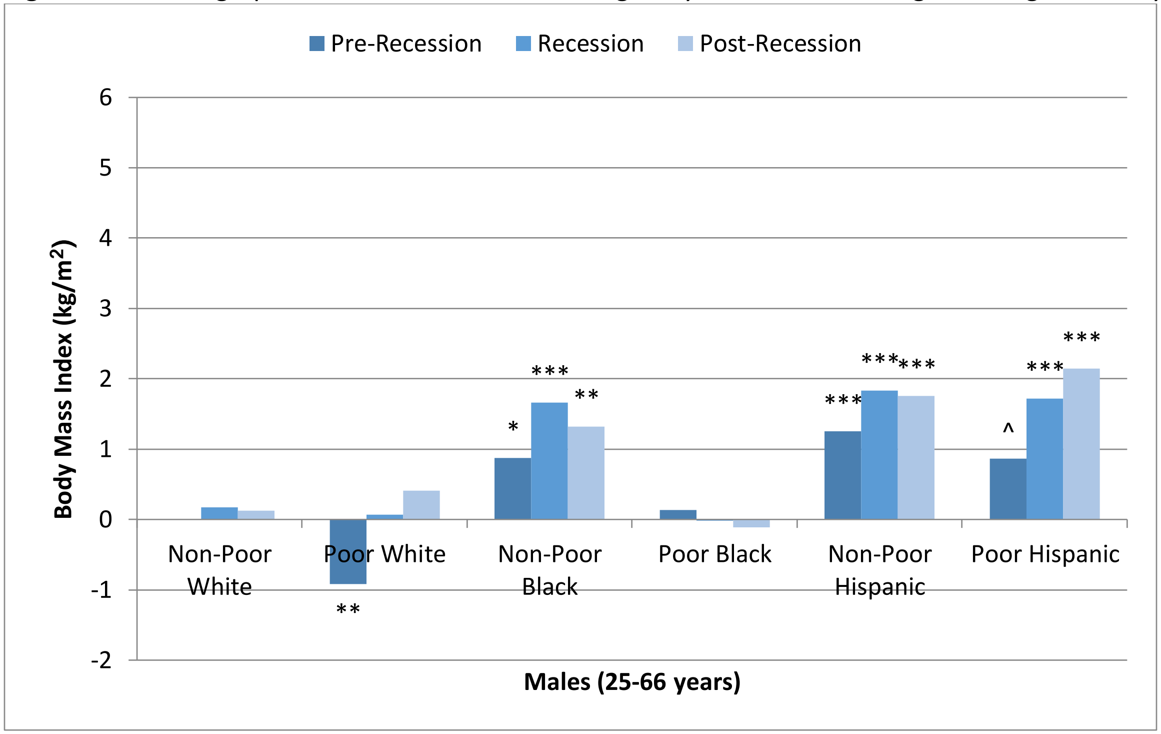
Variable Name	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Demographic Included	**Females 25-66 years**			**Males 25-66 years**		
	Baseline	**Recession**	**Health Behaviors**	**Baseline**	**Recession**	**Health Behaviors**
Poor Black Pre-Recession	5.335***	5.286***	4.703***	0.139	-0.107	-0.040
	(0.58)	(0.66)	(0.64)	(0.52)	(0.61)	(0.59)
Poor Black Recession	5.318***	5.224***	5.095***	-0.021	-0.428	-0.169
	(0.57)	(0.86)	(0.85)	(0.46)	(0.65)	(0.63)
Poor Black Post-Recession	5.970***	5.870***	5.635***	-0.116	-0.487	-0.383
	(0.51)	(0.76)	(0.74)	(0.51)	(0.67)	(0.66)
Non-Poor Black Pre-Recession	3.332***	3.236***	2.791***	0.872*	0.681	0.631
	(0.48)	(0.59)	(0.60)	(0.36)	(0.44)	(0.43)
Non-Poor Black Recession	4.228***	4.101***	3.649***	1.662***	1.352*	1.261*
	(0.71)	(0.76)	(0.76)	(0.37)	(0.61)	(0.61)
Non-Poor Black Post-Recession	5.276***	5.128***	4.770***	1.324**	1.021^	0.953^
	(0.59)	(0.79)	(0.77)	(0.41)	(0.57)	(0.57)
Poor White Pre-Recession	0.820^	0.861*	0.931*	-0.917**	-0.966**	-0.739*
	(0.42)	(0.42)	(0.44)	(0.33)	(0.34)	(0.37)
Poor White Recession	1.467*	1.482*	1.590**	0.067	-0.075	0.034
	(0.61)	(0.61)	(0.58)	(0.39)	(0.42)	(0.41)
Poor White Post-Recession	3.147***	3.158***	3.208***	0.405	0.279	0.415
	(0.54)	(0.55)	(0.54)	(0.43)	(0.46)	(0.44)
Non-Poor White Recession	0.076	0.040	-0.028	0.176	0.084	-0.029
	(0.39)	(0.44)	(0.43)	(0.29)	(0.28)	(0.29)
Non-Poor White Post-Recession	0.484	0.456	0.487	0.128	0.069	-0.069
	(0.45)	(0.47)	(0.47)	(0.30)	(0.29)	(0.29)
Poor Hispanic Pre-Recession	3.577***	3.581***	3.158***	0.866^	0.827^	0.546
	(0.57)	(0.60)	(0.57)	(0.48)	(0.49)	(0.49)
Poor Hispanic Recession	3.880***	3.833***	3.263***	1.722***	1.561**	1.305**
	(0.47)	(0.59)	(0.58)	(0.42)	(0.50)	(0.49)

Poor Hispanic Post-Recession	4.805***	4.754***	4.209***	2.141***	2.003***	1.647***
	(0.51)	(0.62)	(0.63)	(0.41)	(0.43)	(0.43)
Non-Poor Hispanic Pre-Recession	2.353***	2.327***	1.983***	1.249***	1.238***	1.122**
	(0.46)	(0.49)	(0.49)	(0.35)	(0.35)	(0.34)
Non-Poor Hispanic Recession	1.999***	1.921**	1.682**	1.834***	1.694***	1.425**
	(0.49)	(0.60)	(0.60)	(0.45)	(0.48)	(0.46)
Non-Poor Hispanic Post-Recession	2.667***	2.592**	2.352**	1.754***	1.648***	1.427***
	(0.67)	(0.79)	(0.78)	(0.39)	(0.40)	(0.40)
Age	0.053***	0.054***	0.040***	0.038***	0.036***	0.029***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Foreign Born	-2.329***	-2.335***	-2.656***	-1.649***	-1.637***	-1.815***
	(0.35)	(0.35)	(0.36)	(0.22)	(0.22)	(0.23)
Foreign Born x Years in U.S.	0.089***	0.089***	0.101***	0.020^	0.020^	0.020^
	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)
High School	0.478	0.459	0.412	0.713*	0.719*	0.471
	(0.31)	(0.30)	(0.30)	(0.30)	(0.30)	(0.31)
More than High School	-0.463^	-0.487^	-0.670*	0.074	0.088	-0.335
	(0.27)	(0.27)	(0.27)	(0.26)	(0.27)	(0.27)
Employed		0.172	0.206		-0.209	-0.353
		(0.21)	(0.21)		(0.22)	(0.23)
National Unemployment Rate		0.019	0.030		0.032	0.027
		(0.07)	(0.07)		(0.05)	(0.04)
Moderate Alcohol Drinker			-1.631***			-0.797**
			(0.30)			(0.24)
Heavy Alcohol Drinker			-1.716***			-0.374
			(0.29)			(0.26)
Occasional Smoker			-0.805^			-1.912***
			(0.41)			(0.24)
Regular Smoker			-1.917***			-2.240***
			(0.31)			(0.22)
Constant	25.952***	25.703***	28.117***	27.048***	27.147***	29.061***

	(0.56)	(0.69)	(0.79)	(0.46)	(0.57)	(0.65)
N	8221	8221	8221	8263	8263	8263

Note: Each cell contains regression coefficients and standard errors (in parentheses). Significant differences among groups are denoted as follows: ^p<0.10. *p < 0.05. **p < 0.01. ***p < 0.001.

Fig. 2. Sociodemographic OLS Coefficients Predicting Body Mass Index among Males aged 25-66 years, NHANES 2003-2014



Note: Pre-recession, non-poor white males serve as reference categories. Asterisks denote significant differences between each subgroup and the reference category: ^p<0.10. *p < 0.05. **p < 0.01. ***p < 0.0

3.2. The Great Recession and Health Behaviors as Mediators

Table 2 Models 2 and 5 explore the effects of employment status and the national unemployment rate on the focal association for working-aged females and males, respectively. Both indicators for the Great Recession are not significantly associated with BMI. For non-poor black males, however, employment status and national unemployment rate appear to fully mediate the focal association, accounting for non-poor black males' elevated BMI. The indirect effect of these Great Recession proxy variables is not significant (0.191 kg/m^2, $p = 0.479$) however, and, therefore, we find no evidence of mediation on account of employment status and the national unemployment rate for any demographic subgroup.

Moderate alcohol consumption is inversely related to BMI for both males and females in the sample. Whereas being a heavy alcohol drinker has no association with BMI for males, consuming two or more alcoholic beverages daily is negatively associated with BMI for females. Likewise, males and females who smoke occasionally or regularly also experience lower BMI, with a stronger negative effect noted among regular smokers (Table 2 Models 3 and 6).

Among females, deleterious health behaviors partially account for elevated BMI levels across all recession periods among the following demographic subgroups: poor and non-poor blacks, as well as poor and non-poor Hispanics. Smoking behaviors and alcohol intake suppress the focal relationship for poor white women, regardless of recession period. This suggests that if it were not for poor white women's engagement in moderate and heavy drinking as well as occasional and regular smoking, their BMI would be even higher (Table 2 Model 3).

Alcohol consumption and smoking behaviors partially account for elevated BMI relative to pre-recession, non-poor white males among the following demographic subgroups: non-poor Hispanic males across all recession periods; poor Hispanic males and non-poor black males during the recession and post-recession; and poor white males, pre-recession (Table 2 Model 6). Thus, for males, elevated BMI levels persist among a subset of sociodemographic groups despite adverse health behaviors partially mediating the relationship between race/ethnicity × socioeconomic status and BMI.

3.3. Within Sociodemographic Subgroup Variation (Linear Combination Analyses)

Linear combination analyses explore variation in BMI across recession periods within each demographic subgroup, utilizing the fully mediated regression models (i.e. Model 3 for females and Model 6 for males). Table 3 reports and Figures 3 and 4 illustrate significant findings from these analyses, comparing recession and post-recession BMI within each demographic subgroup to their pre-recession baseline BMI.

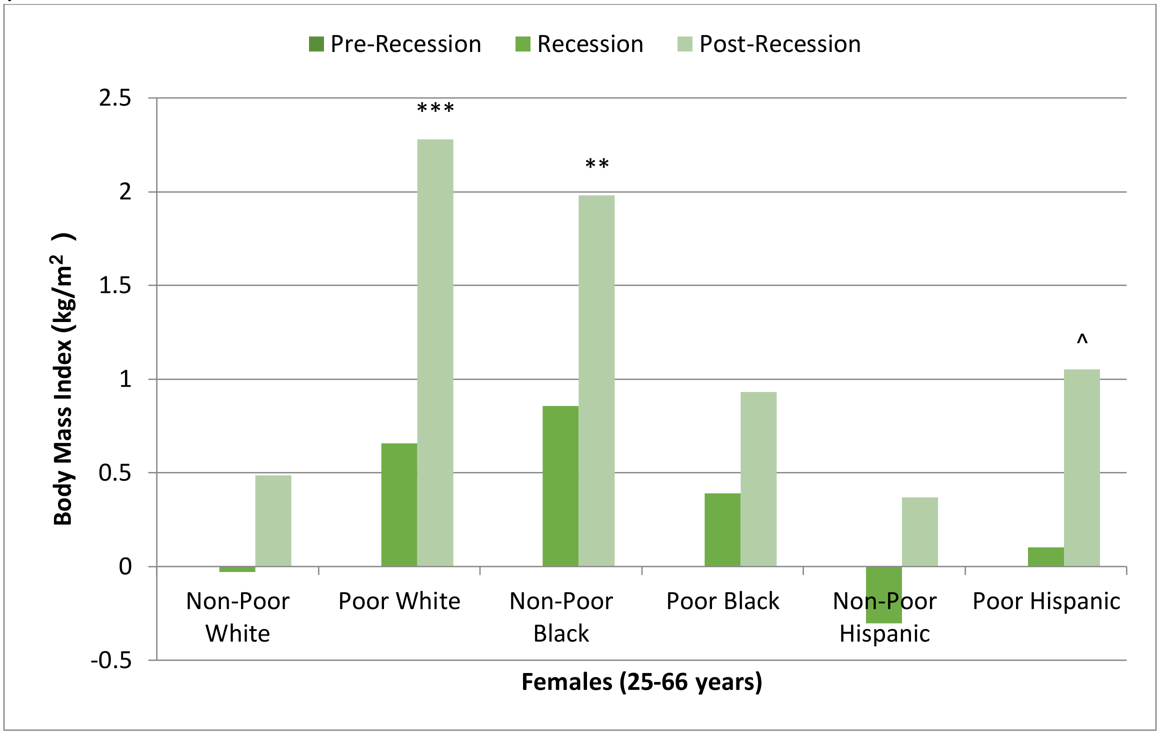
Table 3. Significant Findings from Linear Combination Analyses, NHANES 2003-2014

Sociodemographic Group	**Females**	**Males**
25-66 years		
Poor White		
Pre-Recession to Post-Recession	2.277***	1.154*
	(0.559)	(0.536)
Recession to Post-Recession	1.619*	
	(0.637)	
Poor Hispanic		
Pre-Recession to Post-Recession	1.051^	1.101*
	(0.585)	(0.456)
Recession to Post-Recession	0.946*	
	(0.465)	
Non-Poor Black		
Pre-Recession to Post-Recession	1.979**	
	(0.649)	

Note: Each cell contains regression coefficients and standard errors (in parentheses). Significant differences among groups are denoted as follows:
^p<0.10. *p < 0.05. **p < 0.01. ***p < 0.001.

Among females, poor white women experience the largest gains in BMI when comparing BMI post-recession to pre-recession BMI (2.277 kg/m^2, p < 0.001). A significant portion of this rise in BMI for poor white females took place in the post-recession period relative to the recession period (1.619 kg/m^2, p < 0.05). Similarly, poor Hispanic women experienced gains in BMI in the post-recession period relative to the pre-recession years (1.051 kg/m^2, p < 0.10), with the majority of this gain occurring in the period between the recession and post-recession (0.946 kg/m^2, p < 0.05). The post-recession period also saw significant gains in BMI for non-poor black females relative to their pre-recession BMI (1.979 kg/m^2, p < 0.01).

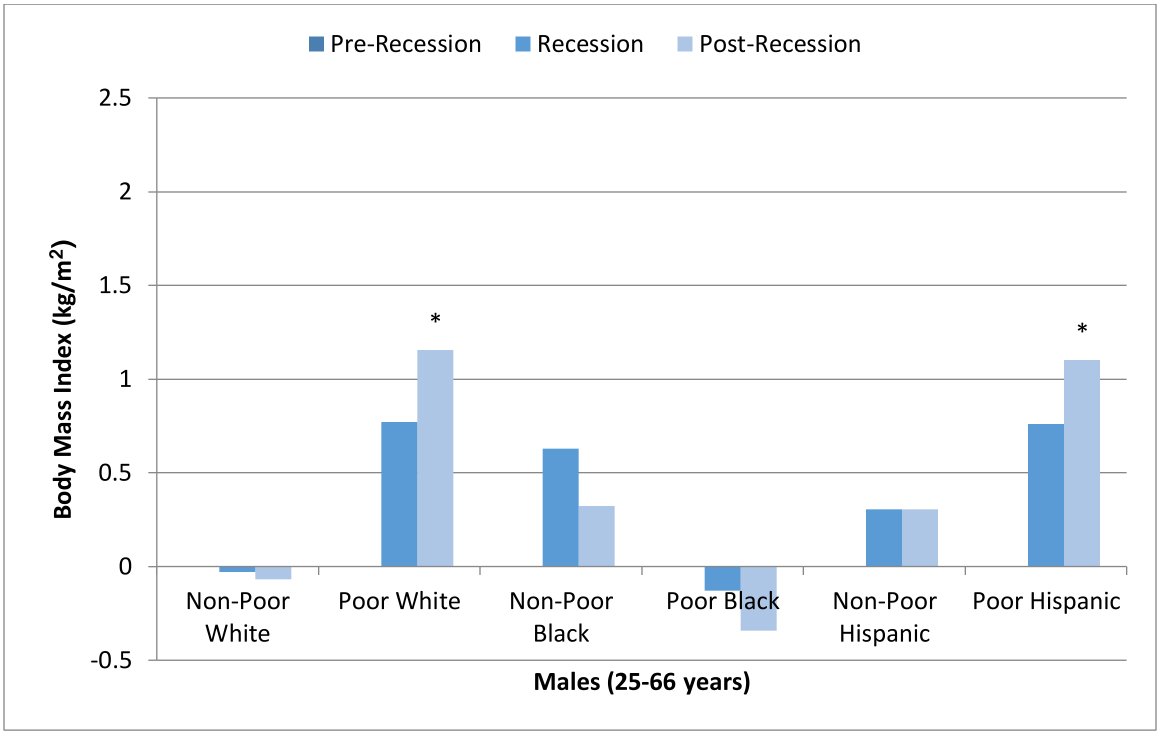
Fig. 3. Linear Combination Analyses Predicting Body Mass Index among Females aged 25-66 years, NHANES 2003-2014



Note: The reference category varies for each demographic subgroup; within each demographic subgroup, the respective pre-recession race/ethnicity × socioeconomic status group serves as the reference category, e.g., pre-recession poor Hispanic females are the reference group for the poor Hispanic subgroup. Asterisks denote significant differences between each subgroup and the reference category: ^p<0.10. *p < 0.05. **p < 0.01. ***p < 0.001.

Poor white males and poor Hispanic males each exhibit significantly higher BMI in the post-recession period relative to their pre-recession BMI baseline. Poor white males' BMI increased by 1.154 kg/m^2 (p < 0.05), while poor Hispanic males' BMI rose by 1.101 kg/m^2 (p < 0.05).

Fig. 4. Linear Combination Analyses Predicting Body Mass Index among Males aged 25-66 years, NHANES 2003-2014



Note: The reference category varies for each demographic subgroup; within each demographic subgroup, the respective pre-recession race/ethnicity × socioeconomic status group serves as the reference category, e.g., pre-recession poor Hispanic males are the reference group for the poor Hispanic subgroup. Asterisks denote significant differences between each subgroup and the reference category: ^p<0.10. *p < 0.05. **p < 0.01. ***p < 0.001.

4. DISCUSSION

Multiple dimensions of social disadvantage intersect to affect population-level BMI preceding, during, and following the Great Recession. We note significant increases in BMI during and after the period of the Great Recession in the following *five* demographic subgroups: poor white males and females, poor Hispanic males and females, and non-poor black females. Notably, the continued rise of BMI in the post-recession period for these five demographic subgroups suggests that recession-induced behavioral changes affecting BMI endure beyond, and lag behind, the Great Recession's economic recovery.

The adverse health effects during the period of the Great Recession are most evident among those of working-age with the highest likelihood to be directly affected by societal economic collapse (subsequent analyses external to this study examining the focal findings by age group denote that most fluctuations in BMI occur among working-aged adults). The BMI gains experienced by working-aged adults are problematic given their higher pre-recession BMI (see Appendix A for the weighted sample distribution of pre-recession BMI by age, race, gender, and socioeconomic status). While BMIs of the analytic sample range from a low of 27.92 kg/m^2 for poor white males to a high of 33.28 kg/m^2 for poor black females, all observed demographic subgroups are classified as overweight or obese during the pre-recession period (25.0-29.9 kg/m^2 and 30.0 kg/m^2 and above, respectively).

Our regression analyses illuminate consistent and significant disparities in BMI on account of race/ethnicity × socioeconomic status for each gender. Poor and non-poor black females, poor and non-poor Hispanic females, and poor white females all experience elevated BMI relative to non-poor white females. The same is true of poor Hispanic, non-poor Hispanic, and non-poor black males, compared to non-poor white males. These findings persist net of mediators for the Great Recession and select health behaviors. Thus, increases in BMI during the study period are concerning as increased risk for obesogenic-related morbidities and mortality are compounded by their pre-existing overweight or obese status and significant sociodemographic disparities.

4.1. Gender Inequities in BMI

The period of the Great Recession affected females' BMI more severely than males on account of magnitude and duration. Five demographic subgroups note increasing BMI during the study period, with females accounting for three of these subgroups. Further, when characterizing the extent of increase in BMI, female demographic subgroups account for the two largest gains (Table 3). While both poor white and poor Hispanic males and females experienced rising BMI during the whole study period (i.e. pre-recession to post-recession), poor white and poor Hispanic females' BMI also sustained rises during the Great Recession and through the post-recession period. These findings intimate that the deleterious effects of economic stress are more pronounced and enduring for females, consistent with the extant literature (Hoynes et al. 2012; Kochhar 2011). Future studies may consider employing intersectional analyses stratified by gender to enable more nuanced understanding of biosocial health and the subsequent underlying pathways garnering prolonged economic duress among females.

4.2. The Intersection of Race/Ethnicity × Socioeconomic Status × Gender on BMI

Previous research highlights that recessions hit those lower in socioeconomic status hardest- both during the recession and in economic recovery (Acs 2008). Poor white and poor Hispanic males and females, therefore, may be more likely to face job insecurity and financial hardship, leading to unhealthy coping behaviors and subsequent weight gain.

Given that non-Hispanic blacks' unemployment rates peaked higher than any other race and ethnicity during the Great Recession (U.S. Bureau of Labor Statistics 2017a) and household wealth declined by 53% from $12,124 to $5,677 (Taylor et al. 2011), we would expect the psychosocial effects to be reflected in BMI fluctuations among the poor. The period of the Great Recession had no noticeable effect on poor black males and females' BMI. Conversely, the BMI of non-poor black working-aged females rose during the recession, continuing in the post-recession period.

Several structural and cultural factors characterize non-Hispanic blacks' tenuous history with the U.S. economy. Social institutions such as slavery (abolished 1865) and segregation (made unlawful in the 1960s) ravaged blacks' abilities to garner wealth and become upwardly mobile through generations (Landry 1987). A culture of racism and discrimination continues to limit blacks' access to jobs and participation in the middle class (Landry 1987; Pattillo 2013; Rothstein 2017).

The black middle class fully emerged in the 1960s, with the percent of black workers holding middle class jobs increasing from 10 to 27 percent since the 1950s (for reference, approximately 40 percent of whites held middle class jobs in the 1950s) (Landry 1987). Blacks in the middle class, however, continue to differ in key aspects compared to similarly situated whites; blacks in the middle class are more likely to reside in neighborhoods with more low-income individuals, face higher rates of downward mobility, and experience chronic racism and discrimination (Feagin and Sikes 1994; Pattillo 2013). In times of economic downturn, blacks are first to be fired, exemplifying the pervasive nature of racism regardless of socioeconomic status (Couch and Fairlie 2010). Consequently, during the Great Recession, non-poor black females' stress may be heightened relative to non-poor whites, due to increased fears of job loss, unemployment, and foreclosure, ultimately leading to riskier health behaviors and subsequent BMI gains. In contrast, poor blacks may have inured themselves to sudden economic shocks given their lengthy history of marginal relations with the economy. Since the 1980s, global economic trends such as deindustrialization and globalization have disproportionately displaced low-wage black workers (Wilson 2009). Further, high rates of incarceration destabilize black families adding to the multitude of economic shocks experienced by the poor (Wilson 2009).

Resilience may be defined as facing hardship and persevering. In a mixed-methods study of resilience among low-income black women, researchers found higher resilience among women with less problematic social ties and a favorable view of self relative to others (Todd and Worell 2000). Further, women identified strong social support as an important factor underlying their resilience (Todd and Worell 2000). Low-income black adults are most likely to live in highly segregated neighborhoods (Fischer 2003), thereby potentially increasing social support and resilience via favorable comparisons to others. By living in more desegregated neighborhoods, non-poor black women feel more in-group rejection, reducing feelings of support and solidarity (Postmes and Branscombe 2002). Therefore, non-poor black females may be more susceptible to the psychosocial consequences of economic shocks due to lower resiliency. The greater psychosocial stress may lead to unhealthy coping behaviors, ultimately elevating BMI. In contrast, poor black adults may reap the protective benefits of stronger social support and resiliency, thereby buffering the harsh consequences of the Great Recession.

4.3. The Mediators: the Great Recession and Health Behaviors

Potential mediators of the focal association examined the extent to which indicators of the Great Recession and adverse health behaviors underscore the effect of race/ethnicity × socioeconomic status on BMI during the period of the Great Recession. Employment status and national unemployment rate proxy for the Great Recession in the statistical models and are not significantly associated with the dependent variable, BMI. Therefore, our findings indicate that employment status and national unemployment rate do not attenuate the focal association nor explain the noted elevated BMI among select demographic subgroups. Thus, the rise in BMI incurred by select demographic subgroups during the period of the Great Recession, remains a period effect and not directly attributable to the observed economic characteristics of the Great Recession. Future research may explore a more robust selection of indicators to proxy for the Great Recession, further examining the theoretically significant and plausible relationship between macroeconomic forces and BMI (e.g., timing of job loss, experience of home foreclosure, changes in work hours, psychosocial stress in response to the economic climate, difficulty paying bills, etc.).

Occasionally or regularly smoking and moderate alcohol consumption are inversely related to BMI for both males and females in our study. For females, heavy drinking is also negatively associated with BMI. Consistent with our results, research examining the effects of smoking on BMI generally find that smoking reduces body weight (Dare, Mackay, and Pell 2015; Piirtola et al. 2018). Our findings on heavy drinking among females, however, contrast the established literature that posits that heavy drinking promotes weight gain and is a risk factor for obesity (Traversy and Chaput 2015). Likewise, moderate alcohol intake is not typically associated with decreased adiposity (Kwok et al. 2019; Traversy and Chaput 2015). The context of unemployment, however, may provide perspective on these findings. Bolton and Rodriguez (2009) report higher alcohol consumption and lower BMI among groups experiencing unemployment. Research examining alcohol consumption and BMI in the context of societal economic upheaval is warranted to further elucidate the potential mechanisms by which moderate and heavy alcohol consumption decreases BMI (e.g., dietary compensation).

4.4. Limitations

Our study is not without limitations. The cross-sectional study design infers that our findings indicate population-level variation in BMI before, during, and after the Great Recession. A longitudinal, cohort study would create clearer understanding of BMI changes within individuals over time with respect to the Great Recession, e.g., timing of job loss, experience of home foreclosure, difficulty paying bills, individual differences in BMI growth curves, changes in work hours, elements of psychosocial stress in response to the economic climate, changes in health behaviors, etc. Data limitations preclude the aforementioned analyses pursuant to a representative sample of U.S. citizens. Our findings are therefore limited in scope to examining variation in BMI during the period of the Great Recession at the macro-level.

Our study does not include Asian Americans and cannot differentiate the focal findings within Hispanic subgroups. Since NHANES did not begin collecting data specifically on non-Hispanic Asian Americans until the 2011-2012 survey cycle, they are not included in this study. Being that Asian Americans are the most prosperous and well-educated racial group in the U.S., their inclusion in this study would further elucidate the relationship between race/ethnicity × socioeconomic status and BMI during the Great Recession. Researchers note great heterogeneity among Asian and Hispanic subgroups on account of lived experiences and sociodemographic characteristics (National Research Council 2006). Best practices would suggest conducting analyses sensitive to the disparate experiences of Mexicans compared to Cubans compared to Puerto Ricans, for instance. Data restraints prohibit these analyses using NHANES. Future research investigating Asian Americans and heterogeneity among Hispanics is merited.

We analyze two health behaviors as potential mediators underlying the focal association: alcohol consumption and smoking behavior. Research suggests that health behaviors may provide direct pathways through which societal economic changes affect BMI (Dávalos et al. 2011; Dave and Kelly 2012; Dee 2001; Mohammad Ali and Lindström 2006). While changes in alcohol consumption and smoking behavior are associated with economic shocks, physical activity and diet are also important considerations. Beginning in the 2007-2008 survey cycle, NHANES updated their survey questions pertaining to physical activity. Consequently, cross-survey comparisons of physical activity before and after this time period are inhibited. The extent to which pathways such as physical activity and diet underlie the association between the Great Recession and BMI on account of sociodemographic groups is an important consideration for future studies.

5. CONCLUSIONS

Significant disparities exist in population-level BMI at the intersection of socioeconomic status, race, and ethnicity, particularly among women. The period of the Great Recession exacerbated these disparities among poor white males and females, poor Hispanic males and females, and non-poor black females. Adverse health behaviors, including alcohol consumption and smoking behavior, partially mediate the observed inequalities in BMI. Though our indicators of the Great Recession did not provide direct evidence of mediation, future studies should consider an expanded selection of proxy variables for the Great Recession to examine the observed rise in BMI among demographic subgroups.

Further understanding of these distinct pathways is imperative to creating policy aimed at reducing health disparities. The importance of the intersectionality perspective in biosocial health research cannot be overstated. Unique life experiences and social statuses provide context for exposure to societal events and subsequent embodiment of stressors, particularly in periods of societal economic shock. Policies aimed at reducing the underlying causes of socioeconomic disadvantage, in turn, may decrease risk for obesogenic-related morbidities and mortality, ultimately leading to reduced health care expenditures and greater societal well-being.

APPENDIX A.

NHANES 2003-2014 Weighted Sample Distribution of Pre-Recession Body Mass Index (kg/m^2) by Race/Ethnicity × Socioeconomic Status × Gender

Pre-Recession	**Non-Poor**			**Poor**			
BMI (kg/m^2)	**White**	**Black**	**Hispanic**	**White**	**Black**	**Hispanic**	
Females							**Total**
25-66 years	28.05	31.25	29.45	28.91	33.28	29.78	28.90
n	886	321	226	346	286	343	2408
Males							**Total**
25-66 years	28.89	29.60	29.15	27.92	28.84	28.06	28.75
n	959	381	267	349	217	362	2535

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ACKNOWLEDGEMENTS

I wish to thank Sapana Gupta, my former undergraduate research assistant, who aided in the inception of this project.

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“The World is Your Campus”: Exploring Generation Z Students’ Experiences in the Semester at Sea Program

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ABSTRACT

Studying abroad provides an opportunity for emerging adult college students to see the world and explore their identity outside of the confines of everyday life, but the experience can also be a source of stress and adversity. Evidence suggests that the current generation of college students (Generation Z) display a higher level of anxiety and fear as compared to the cohorts before them, and are increasingly opting into short-term, faculty-led programs because they provide both structure and guidance for participants. However, it is still unclear the extent to which these programs are able to meet the needs of Generation Z students. The purpose of the current study was to explore the perspectives of undergraduates participating in Semester at Sea, a unique, voyage-based study abroad program that involved students and faculty traveling together to eleven countries over the span of 106 days. Respondents (N = 302) answered a series of open-ended questions regarding their goals for the trip, their specific concerns, and the extent to which their goals were met by the end of the semester. Qualitative analyses indicated that students were focused on cultivating global citizenship, finding belonging within the shipboard community, and experiencing personal growth through their study abroad experience, and the majority of respondents were able to successfully meet their goals with programmatic support. Our results suggest that Generation Z college students, both those studying abroad and on college campuses, would benefit from targeted initiatives aimed at fostering peer connectedness and community.

KEYWORDS: Study abroad; Semester at Sea; Generation Z; qualitative analysis

American study abroad programs have become increasingly popular over the last few decades, and in the 2018-2019 academic year over three hundred thousand U.S. students studied abroad (Institute of International Education 2021). Undergraduate college students, most of whom are in the life stage of emerging adulthood (spanning ages 18-29; Arnett,2000), have remained the largest population of U.S. study abroad participants across the last two decades (Institute of International Education 2021). For these students, studying abroad offers the opportunity to explore various identities and experiences during a time that is primarily self-focused before having to shoulder the adult responsibilities of settling into a career, raising a family, and “settling down” (Schwartz 2016). Generation Z’s undergraduates (those born 1997

Sociological Viewpoints
Volume 36, Issue 1, 44-60

ISSN: 1060-0876/doi:10.26908/3612022_014

onward; Dimock 2019) express a high level of fear and anxiety about themselves and their place in the world but are motivated by an interest in social involvement and a desire for global awareness (Seemiller and Grace 2016; Broadbent et al. 2017). Previous research suggests that these students are opting into short-term, faculty-led study abroad programs that offer a structured and guided travel experience (Salyers et al. 2015). The purpose of the current study was to explore the extent to which one such program, Semester at Sea, met the needs of the current generation of college students.

GENERATION Z AND STUDY ABROAD

The first members of Generation Z began entering college around 2015, and currently the majority of traditional college students are likely to belong to this generational cohort. Dubbed a generation of "digital natives" (Dimock 2019), Generation Z is the first to grow up with no memory of a pre-Internet, pre-smartphone world (Seemiller and Grace 2016). Over 80% of 18- to 29-year-olds use social media (Auxier and Anderson 2021), which the members of Generation Z view as a tool to enrich social interaction (Okros 2020). However, evidence suggests that communication technology detracts from time spent in in-person social interaction and may contribute to struggles with in-person communication (Pichler, Kohli, and Granitz 2021). Although Generation Z students are highly relationship-focused, it appears that their intense use of communication technology may actually be impeding their ability to make face-to-face connections (Seemiller 2017).

Generation Z individuals are also active consumers of online news, which in recent years has become more negatively focused on tragedies both in the United States and abroad (Talmon 2019). This media consumption has been implicated in Generation Z's risk aversion (Talmon 2019) and fearfulness (Seemiller and Grace, 2016). Generation Z appears to be driving the rising number of college students presenting with mental health problems (Plochocki 2019), which included a 71% increase in serious psychological distress between 2008 and 2017 among young adults aged 18-25 (Twenge et al. 2019).

One possible contributor to Generation Z's increasing participation in study abroad is the breadth of online marketing. Educational institutions use their websites and social media accounts to distribute information about study abroad programs (Schouten 2011), engaging users with written messages and photos (Apperson 2015). Many of these websites feature student testimonials (in the form of quotes and blog posts) and videos of students' study abroad experiences (Apperson 2015). Miller-Idriss, Friedman, and Auerbach (2019) conducted an assessment of online study abroad marketing materials posted on the websites of U.S. college institutions and identified three key themes across 2,000 images. First, many schools used photos of students engaged in fun and adventurous activities, often posed in front of famous landmarks and in groups. Second were images of students the authors described as "horizon-gazing," looking off into the distance, generally across a foreign landscape, to illustrate a moment of contemplation and quiet reflection. The final category included photos of students with their arms outstretched, often with the foreign host country in the foreground, suggesting a sense of amazement. The authors concluded that these images may cultivate students' perceptions of study abroad as "an intense time for personal growth and transformation, for expanding one's horizons, bonding with fellow students, and experiencing joy, adventure, and liberation" (Miller-Idriss, Friedman, and Auerbach 2019:1104).

These online representations of study abroad may appear especially attractive to Generation Z consumers, who are driven by convenience, security, and escapism (Wood 2013). Indeed, Nguyen and Coryell's (2015) interviews with study abroad students revealed that their primary motivations for studying abroad were to "escape" and "have fun," and 75% of students indicated that their positive perceptions of the study abroad experience were influenced by media (including online research and interactions). Similarly, students in Beech's (2015) study abroad sample reported that they used social media to reach out to students at the foreign universities they expected to study at, and to connect with other students who had previously studied abroad.

Although Generation Z college students are digitally savvy with research and preparation for the study abroad experience, there is still some amount of trepidation about embarking on the journey themselves. In one investigation, almost half of students reported feeling stressed "often" or "almost always" prior to embarking abroad (Bathke and Kim 2016). Logistic and safety concerns are prevalent, including specific worries about living conditions and political situations (Bell 2016; Brown, Boateng, and Evans 2016). In addition, despite increasing globalization, cross-cultural differences and culture shock continue to create challenges for study abroad students (Salyers et al. 2015; Harrell et al. 2017; Brown et al. 2016; Bell 2016).

The anxiety that characterizes Generation Z has not stopped them from participating in study abroad, but it does appear to have influenced their choice of programs. Students rely on institutional support and preparation (Harrell et al. 2017; Nguyen 2015; Bell 2016), and expect their study abroad program to be a safe travel experience guided by faculty from their home university (Salyers et al. 2015). The majority of Generation Z students choose short-term programs lasting from a few days to a few weeks (Institute of International Education 2021), which often involve traveling with familiar peers (Kortegast and Boisfontaine 2015; Scally 2015; Redwine et al. 2018). These peers play an important role in the study abroad experience, as students develop friendships through programmatic activities (Kortegast and Boisfontaine 2015) and "[depend] on each other to get through" (Redwine et al. 2018:80).

Coinciding with students' changing preferences for programs, there has been an increase in the use of third-party providers and services in study abroad programming (Dietrich 2018). Semester at Sea, established in 1963, is a third-party option that provides students with the unique opportunity to visit multiple countries over three and a half months at sea (Semester at Sea 2022). During a single voyage on the program's "floating campus," a cohort (comprised of students from multiple universities across the U.S.) travels to approximately a dozen countries in the span of just over 100 days. Ultimately, the Semester at Sea program allows students to study abroad while retaining the comfort and familiarity of a communal college campus. The common language onboard the ship is English and in between port stops students attend classes, engage in extracurricular activities, socialize, and sleep onboard.

Semester at Sea includes a variety of initiatives designed to support students in their international travel. Students are expected to take a full course-load (with all classes provided in English, bypassing any foreign language obstacle), including a required "Global Studies" course which provides in-depth information about each country visited during the semester abroad. Along with experiential learning in the form of independently driven offshore excursions and field programs, students have the opportunity to participate in evening seminars, diplomatic briefings, and a variety of recreational clubs. Finally, although they likely experience some amount of culture shock in integrating to life at sea, students are surrounded by residential life staff, faculty, and peers who were available to support them for the duration of the voyage.

THE CURRENT STUDY

Programs like Semester at Sea are likely to see a rise in popularity in the coming years, given that Generation Z students are highly interested in study abroad experiences that incorporate travel with peers, programming, and guidance from faculty and staff (Institute of International Education 2021; Seemiller and Grace 2016; Talmon 2019). However, it is unclear the extent to which these types of programs are able to successfully ameliorate the concerns of Generation Z students while meeting their goals for their study abroad experience. To investigate these outcomes, the current study utilized an exploratory qualitative approach, guided by the following research questions:

1. What goals did students have for their Semester at Sea voyage?
2. To what degree were their goals met?
3. What features of the Semester at Sea program contributed to students' successful goal achievement?

METHOD

Participants and Procedure

The sample included 302 undergraduate students participating in the spring 2019 Semester at Sea voyage, representing over half (52%) of the student population onboard. Consistent with the shipboard population, 80.1% of the sample were women (242 women, 60 men). The average age was 20.5 (*SD* = 1.1, range = 18-29), and 78.8% were 20-21 years old. The majority of participants were White (77.2%), followed by Hispanic/Latino (7.4%), biracial/multiracial (7%), Asian (5.7%), Native American (1%), other (1%), and Black (.7%). Over half of participants were college sophomores (27.9%) or juniors (61.4%). Ninety-five percent were enrolled in a university in the United States. Ninety-eight point three percent attended a four-year state university or private college and 1.6% a two-year community college. Nearly two thirds (64.1%) of Semester at Sea respondents knew someone who was attending the voyage prior to the trip, and on average students reported prior familiarity with three individuals onboard.

Most respondents (93.8%) reported having prior international travel experience and 81% had been to multiple international locations. However, many of these trips were not independent and occurred in the context of family vacations, school programs, and service programs (e.g., as part of a mission trip or service-learning). The three most common international locations were North America (61.9% of students), Europe (60.9%), and Asia (22.8%). Of the students who had traveled within North America, the majority were U.S. students visiting Canada.

Students were invited to take part in the study during the last week of classes onboard. After their final exam for the common "Global Studies" class, students were provided information about the study. Interested participants reviewed and signed a consent form and were immediately provided the paper and pencil study survey at their desk, followed by a debriefing form containing further study details and contact information for the researchers. The survey took approximately 15-20 minutes to complete. The study was approved by the

Institutional Review Board of the participating university and adhered to the research policies set by the Institute for Shipboard Education.

Materials

The study survey first included a series of demographic questions. Students were then asked to identify their goals for the trip and which of those goals had been met, their expectations and concerns about roommates and making friends during the voyage, and sources of interpersonal conflict.

Data Analysis

Quantitative data were analyzed using IBM SPSS Statistics, version 28.0.1.0. We used the framework described by Elliott and Timulak (2005) to guide qualitative data analysis. First, we prepared the data for analysis by conducting an initial review of responses. After redundancies and irrelevant digressions (unrelated to the original survey questions) were removed, we realized that there was significant overlap in students' responses regarding their educational and social goals and decided to analyze these data together as one domain. All other responses were organized into domains according to the survey questions. We then divided the data associated with each domain into standalone meaning units by separating distinct information provided within individual responses. Finally, we assigned the meaning units to categories based on their similarities. This process continued until all meaning units were assigned to a thematic category, after which the thematic categories themselves were compared and, if necessary (based on similarity), collapsed. We maintained an ongoing dialogue throughout qualitative coding, returning to the meaning units and recategorizing as needed based on reinterpretation of the data over the course of several reviews and consultations between the authors.

RESULTS AND DISCUSSION

The purpose of the current study was to gain a deeper understanding of the motivations and challenges of Generation Z college students participating in a voyage based, short-term study abroad program. Overall, the current sample's goals were consistent with those reported in other investigations (e.g., Wintre et al. 2015; Bell 2016; Harrell et al. 2017); students appeared to be interested in the security of a cohort-based, faculty-led trip, and their narratives revealed a mix of anxiety and excitement associated with studying abroad. However, the findings also highlighted overarching themes specific to Generation Z and provided a nuanced look at the needs of the current generation of college students studying abroad. Qualitative analysis of students' responses to open-ended questions regarding their educational and social goals revealed three primary thematic categories: *global citizenship, need to belong*, and *personal growth*. Further examination revealed several subthemes (Figure 1), which are discussed in relation to students' reflections on their interpersonal experiences during the voyage and the implications for future study abroad programming.

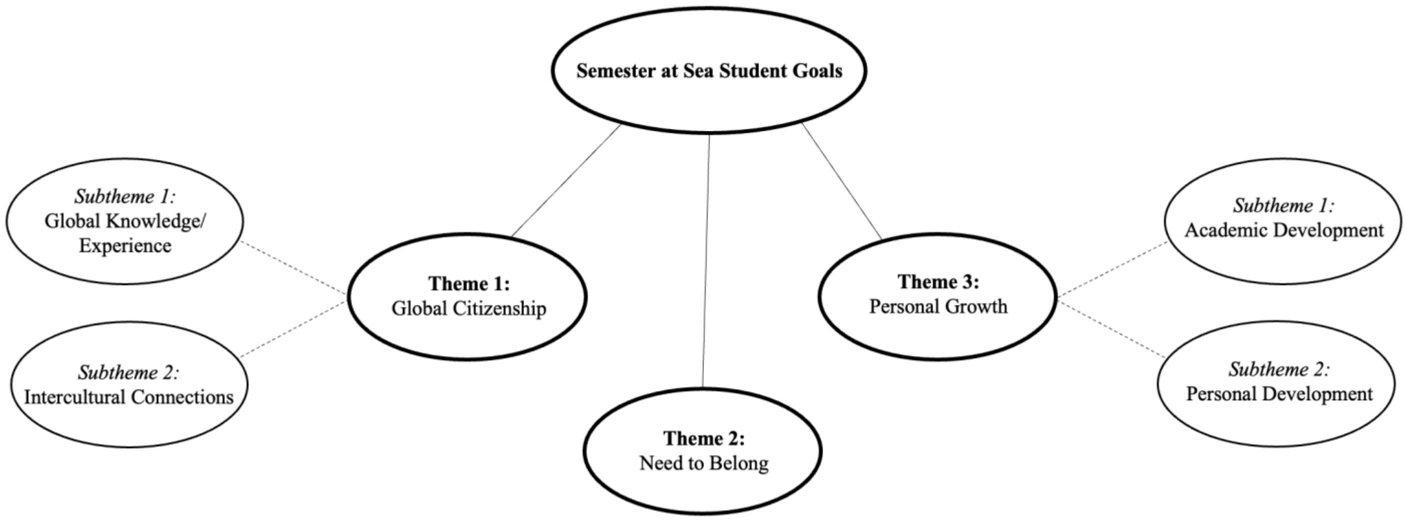

Figure 1. Primary Themes and Subthemes Reflecting Semester at Sea Students' Goals for the Voyage

Theme 1: Global Citizenship

A common argument for the utility of studying abroad is that it will cultivate a broader worldview, and many programs advertise that their students will become "global citizens" as a result of participation (Zemach-Bersin 2009). The homepage of the Semester at Sea website promotes the program to students with the message "Come home with a global perspective" (Semester at Sea 2022). The academics section of the website includes an entire page dedicated to global citizenship, defining global citizens as "members of a world community who contribute to and respect the worlds' values and practices, and cultures" (Semester at Sea 2022). Media savvy Generation Z students are highly likely to seek out information about study abroad on program websites, which are commonly the first reference point for students considering study abroad (Bishop 2013). Therefore, it is not surprising that over three quarters (81.7%) of the current sample of students reported at least one goal related to their desire to cultivate *global citizenship*.

The majority of responses within this theme (78.3%) highlighted students' excitement to take advantage of the opportunities provided by Semester at Sea in order to *gain global knowledge and experience*. Respondents expressed interest in developing a better understanding of the world and many elaborated that they wanted to learn more about the history, politics, and belief systems of other cultures through first-hand experiences in-country. Examples included:

Learning more about and experiencing other cultures to have a more well-rounded perspective of the world.

Gaining a real-world education through travel.

Apply knowledge in-country.

To learn more about other countries – cultures, languages, traditions, the way people live elsewhere.

See the world, immerse myself in new cultures, explore new perspectives, opinions.

Beyond their determination to cultivate global knowledge, students were eager to engage with individuals from different cultures. Previous findings indicate that, in general, study abroad students expect to meet, interact, and make connections with locals (Sánchez, Fornerino, and Zhang 2006; Krzaklewska 2008; Badstubner and Ecke 2009; Nyaupane, Paris, and Teye 2010; Anderson and Lawton, 2015). In accordance with this, the remaining 21.7% of coded responses within this theme described respondents' goals to create *intercultural connections*. While some students simply wanted to "Meet locals" or "Talk to locals," the majority were interested in more enduring relationships:

Make international friends to talk [with] and visit.

Make great personal friends with locals in-country.

Engage in the lives of people in ports.

Have great personal connections in-country.

New global friends to visit later in life.

Questions have been raised about whether short-term study abroad programs have the capacity to produce meaningful intercultural experiences for students (Dietrich 2018). In their review of students' foreign language use during study abroad, Allen and Dupuy (2012) noted that students generally report "rare to nonexistent contact with people from the host community" (p. 473). The current sample of students faced a particular challenge due to the nature of the Semester at Sea voyage itself. Rather than spending their semester in one foreign country, Semester at Sea participants visited eleven countries over the span of three and a half months, typically spending only 4-5 days in each port. Because of this limited contact with host communities, students had few "natural" opportunities to create long-term connections.

However, the Semester at Sea program is also uniquely posed to support students' global citizenship in other ways. All students were required to participate in a Global Studies course, which provided in-depth information about each host country to prepare students for port visits. In addition, faculty-led mandatory field programs combined this targeted shipboard instruction with in-country contact with host communities (such as visiting a women's shelter in Ghana) to facilitate students' cross-cultural experience. Likely as a result of these programmatic initiatives, students reported that they ultimately met 90.4% of their global citizenship goals. It appears that Semester at Sea provided an avenue for the current generation of students to participate in cross-cultural exchange within a structured environment that they felt promoted their intercultural knowledge and engagement.

Theme 2: Need to Belong

Generation Z has been described as "the 'We' generation," characterized by a focus on community engagement and connection (Seemiller and Grace 2016). Semester at Sea's "floating campus" offers these students a uniquely community-centered study abroad experience, during which they can expect to "[make] lifelong friends and [share] a world of experiences together" (Semester at Sea 2022). Therefore, it is not surprising that the second most common theme regarding students' goals for the voyage, identified by 73.1% of respondents, reflected their *need to belong* with their shipboard peers. Students were highly focused on forging meaningful, long-lasting friendships, and almost a quarter (19.1%) of the responses assigned to this theme involved some variation of the phrase "make lifelong friends." Respondents emphasized both the importance of connecting with diverse individuals from "different backgrounds" (a commonly used phrase), and their desire to find others with similar values and interests. Examples included:

To meet a diverse group of friends who were as open to learning as I was.
Make friends outside my home institution, group of like-minded people.
Gain new friends who also have a passion for seeing the world.

Despite the program's focus on creating a shipboard community, and the fact that students had prior familiarity with an average of three people onboard, 86.7% of respondents expressed concerns about their ability to make friends during the voyage. There are several factors that are likely to have contributed to these worries. For many students the trip represented the first time that they experienced semi-independent travel. This may have strengthened their determination to find friends who they could rely on for support during the voyage. In addition, students anticipated spending days at a time sailing together between visits to host countries. Because the ship had no internet access, their primary source of contact during this time would be their shipboard peers and almost half (40.1%) of respondents expressed concerns about their ability to "fit in" and find people who were like them onboard. One respondent wrote that they worried about, "Being able to fit in, finding belonging." Another noted that they were anxious about being seen as "the weird kid who no one wanted to be friends with." It makes sense that, in this context, finding peers who they liked and could connect with was of utmost importance. Finally, there is evidence that the members of Generation Z are especially vulnerable to stress. A national survey found that 9 out of 10 Generation Z respondents reported experiencing at least one symptom of stress in the last month, and 35% described "bullying/not getting along with others" as a significant source of stress in their life (American Psychological Association 2018).

While the insulated nature of the shipboard community may have contributed to their worries, it also appeared to play an instrumental role in allowing students to forge meaningful connections. Over three quarters (79.8%) of respondents ultimately reported that they met their goals regarding peer connections while onboard the ship. Although students didn't specifically acknowledge the lack of internet access in their responses, it's likely that this was a contributing factor. Unlike a traditional college campus (whether at home or abroad), living onboard without access to the online world forced the shipboard population to congregate together. All students ate in one of two dining halls each evening, and it was typical for students to sit with a wide range of peers due to space constraints. Students also spent much of their free time "hanging out" around the ship, which facilitated connections through participation in the same clubs and activities, shared hobbies, and even just striking up conversation. Many respondents noted that they spent "most of their day" when the ship was at sail with friends and among their peers. Their responses highlighted the communal culture onboard, such as, "I spent most of my time in common areas meeting people and saying hi to people I know," and, "I hop around a lot and say hi to a lot of people, I usually will be going somewhere and stop to talk because I run into someone I know." When students were asked about the settings and environments in which they made friends during the trip, 27.9% of respondents reported some variation of the phrase "around the ship" (representing the most commonly reported setting). It appears that, in general, students met their social needs primarily via incidental interactions prompted by physical proximity.

These results are encouraging when considering the importance of friendships for emerging adults as a whole, and for study abroad students in particular. During a period characterized by uncertainty (Arnett 2006), close relationships are essential sources of comfort and reassurance, and community belongingness appears to be a critical factor in emerging adults' identity exploration (Wood et al. 2018). In a review of Generation Z's social media use, Turner (2015) argued that many members of this generation seek out online interaction to gain a sense of belonging that they are unable to obtain in real life. Some evidence suggests that a similar phenomenon may be apparent among study abroad students, most of whom have access to the internet during their trip (Mikal and Grace 2012; Wooley 2013; Hofer et al. 2016). While some students felt that communication technology had a positive impact on their study abroad experience (such as allowing them to keep in touch with loved ones back home), others felt that it detracted from their ability to be in the moment and fully immerse themselves in their new environment (Hofer et al. 2016). Hofer and colleagues (2016) found that frequency of contact with parents was negatively associated with study abroad students' autonomy development; similarly, Mikal and Grace (2012) noted that study abroad students' use of the internet for support seeking and social networking was negatively associated with their goal achievement. In comparison, the Semester at Sea program created an environment that facilitated in-person interaction and fostered a sense of shipboard community, allowing students to move past their fears and develop meaningful friendships. These friendships, in turn, appear to enhance the study abroad experience, creating a sense of safety and connectedness that allows students to pursue learning opportunities that they might not otherwise experience (Harper 2018).

Theme 3: Personal Growth

Over half of respondents (64.3%) wrote about goals related to *personal growth*. Many recognized the trip as an opportunity to push themselves academically and over half of coded responses within this theme (55.2%) reflected respondents' desire for *academic development*. They were eager to explore new classes and take advantage of transferable credits to complete required coursework in an exciting environment far from their home institution. Some of these responses included:

Gain credit to count towards my major and gain knowledge for my future.

To see and study theater internationally.

Learn about psychology through a global mindset.

To take classes while traveling and get an education outside of my home university.

Multiple students wrote about their determination to flourish in shipboard classes, including: "get all A's," "achieve a 4.0," and "get a good GPA." Evidence suggests that study abroad has a positive association with students' academic achievement; for example, 90% of Cardwell's (2020) study abroad student sample felt that their academic abilities were strengthened over the course of their trip. Cardwell's students attributed their academic success largely to their personal development during the trip, including feeling more confident and being able to see things from a different perspective.

Semester at Sea students also expressed a variety of hopes regarding their *personal development* during the voyage, representing 44.8% of coded responses within this theme. The concept of personal development is central to study abroad and is consistently cited as a salient outcome for students (Kauffmann and Kuh 1984; Maharaja 2018; Firmin et al. 2013). Emerging adults are in an age of possibilities during which they have an “unparalleled opportunity to transform their lives” (Arnett 2006:7). Accordingly, responses emphasized students’ determination to engage in self-exploration and self-betterment, such as:

To figure out more about myself and where I wanted to go in life.

Learn more about myself and goals for the future, learn more about what/who I prefer to surround myself with during times outside of class.

Become better spoken, find peace in who I surround myself with.

Semester at Sea students appeared to see the voyage as a chance to have a transformative experience outside of the confines of their “everyday life,” although not all of them were sure about exactly what this would entail. Francis and Hoefel (2018) suggested that for Generation Z “the self is a place to experiment, test, and change” (2018:4), resulting in members of this generation valuing identity exploration. The members of Generation Z are also used to uncertainty, both at the societal and personal level (Hernandez-de-Menendez, Díaz, and Morales-Menendez 2020). Consistent with this theoretical framework, many respondents were interested in personal exploration and growth without any strictly defined parameters, instead writing about general goals such as “learn about themselves,” “learn from others,” and “grow as a person.”

Reflecting Generation Z’s focus on interconnectedness (Seemiller and Grace, 2016), students were highly interested in becoming more socially aware and involved. McKay and colleagues (2022) noted that leaving the safety net of one’s home network and “saying ‘yes’ to new experiences and people” (2022:427) is integral to the study abroad experience, and Semester at Sea students wrote extensively about their determination to do so. Examples included:

To not restrict myself to my best friend and the ship, and to continue to branch out.

Become more comfortable talking to new people.

Open up, get involved.

Overall, students were motivated to participate in a variety of activities, events, and programs that were offered during the Semester at Sea voyage. While reflecting on their favorite social activities onboard, respondents wrote enthusiastically about their involvement in community programming such as movie nights, dances, and evening seminars. Another way that students demonstrated their desire to push themselves to try new things and get out of their comfort zone was through their in-country travel. Their responses highlighted the necessity of figuring out how to manage opposing desires, plan independent excursions, and navigate foreign locations.

Many of the challenges Semester at Sea students faced were not unique to study abroad; a significant portion of college undergraduates report experiencing stressors such as changes in social activities, working with people they don’t know, and finding themselves in unfamiliar situations (Acharya, Jin, and Collins 2018). However, unlike traditional college programs which allow students time to acclimate and work towards accomplishing their goals, study abroad represents a unique and time-limited opportunity. While the majority of respondents’ personal growth goals (82.4%) were met, the Semester at Sea program forced students to push themselves and learn to tolerate and manage discomfort within a relatively short period of time.

LIMITATIONS AND FUTURE RESEARCH

Along with a variety of strengths, such as a large sample size (representing over half of the Semester at Sea shipboard student population) and associated quantity of responses, the current study included a few limitations. First, the data were gathered from students' reflections during the last week of their semester abroad. Therefore, it is possible that some responses may have been affected by hindsight bias or cognitive dissonance. Students may have retroactively reported on goals that they developed throughout the course of the voyage based on their experiences. Alternatively, they may have been more motivated to report that their goals for the voyage had been met because of their imminent return home. Future research should consider implementing a pre-post design examining students' goals at the beginning of their study abroad trip and which goals had been met at the end. In addition, students in the current sample were invited to participate immediately after completing their final exam in the core Global Studies course, which may have impacted the extent of their responses. Recruiting participants at a different time may have encouraged more in-depth reflection.

Since the start of the new millennium, women have consistently made up over 60% of the study abroad student population (Dietrich 2018; Kim and Lawrence 2021; Siddiqui and Jessup-Anger 2020), and this discrepancy has become more pronounced in recent decades (Di Pietro 2022). Scholars have noted that women tend to perform better in higher education, which is associated with a higher likelihood of studying abroad, and are more likely to choose academic fields that encourage study abroad participation (Salisbury, Paulsen, and Pascarella 2010; Cordua and Netz, 2022). Generation Z women outpace men in higher education enrollment and graduation rates (Parker 2021), suggesting that the study abroad gender gap may continue to widen among this cohort. Consistent with previous research, and with the student demographics of other Semester at Sea cohorts, approximately 80% of the current sample were women. Semester at Sea, in particular, represents a unique environment that may be especially attractive to women. In comparison to other short-term study abroad programs, Semester at Sea students have a high level of supervision and support from faculty and staff onboard, and students in the current sample mostly traveled in groups with their peers in-country. This likely lessened the risk of experiencing harassment or other victimization while abroad. Evidence suggests that women tend to place a higher emphasis on the establishment and maintenance of close relationships as compared to men (Meyers-Levy and Loken, 2015), which may provide another explanation for women's self-selection into the highly communal Semester at Sea program. Having a predominantly female sample may have influenced our results, which indicated that students viewed social connection and belonging as an integral part of their study abroad experience. Future research integrating targeted recruitment of male study abroad students would allow for a better understanding of the male perspective and could provide more insight into the underrepresentation of men in these programs.

CONCLUSIONS AND IMPLICATIONS FOR PROGRAM DEVELOPMENT

The Semester at Sea program (a faculty-guided study abroad voyage that incorporates multiple foreign destinations in one semester) appealed to students due to its targeted combination of experiential learning, community focus, and instructional scaffolding. The majority of students in the current sample reported that they gained intercultural knowledge and experience as a result of their onboard classes and faculty-led in-country field programs. They were also able to establish a sense of community and belongingness with their shipboard peers and found opportunities for identity exploration and personal growth throughout the voyage. For the current generation of "digital natives," use of social media and other online communication platforms may be partially motivated by anxiety and isolation (Hernandez-de-Menendez et al. 2020; Turner 2015; Lyngdoh, El-Manstrly, and Jeesha 2022), and it is likely that this has been exacerbated by the COVID-19 pandemic (Lewis, Trojovsky, and Jameson 2021; Garfin 2020). Our findings highlight the importance of incorporating targeted initiatives focused on community-building and promoting social bonds among student cohorts, both in study abroad programs and on college campuses. Facilitating in-person interaction and connections as a part of the college experience will likely play a critical role in helping students to create more meaningful relationships in real life. The current sample's responses highlighted their desire to grow and better themselves, and our results provide encouraging evidence that, with appropriate support and guidance, Generation Z students can continue to challenge themselves and explore opportunities outside of their comfort zone.

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BIOGRAPHIES

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The Relationship between Peers and Substance Use among Urban Adolescents

Sampson Lee Blair
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ABSTRACT

Peers are a considerable force within the lives of most adolescents, and particularly so among urban youth, where researchers have consistently noted the linkages between substance use of peers and adolescents' own behaviors. It is important to note, however, that peers not only have the potential to encourage substance use, but also to discourage the same. Peer disapproval has been shown to lower overall substance usage, and particularly among females. There remains a need, however, to better understand the nature of peer influence among urban youth, as it pertains to potentially positive and negative effects upon substance use. This study examines the relationship between adolescent substance use and peer influence, with a specific focus upon urban youth. Using a nationally representative sample of high school students, usage patterns of various substances are examined. Although contextual factors, including family characteristics and the availability of substances, are shown to yield significant associations with substance use, peer influence has both positive and negative associations. Among adolescent boys, peer disapproval of substance use is shown to be much more salient than among girls. The analyses and results are framed with ecodevelopmental theory, and the unique nature of peer relationships among urban youth are discussed.

KEYWORDS: Adolescence; substance use; peer influence; urban; ecodevelopmental theory; gender

The adolescent years are typically cast as a time of physical and emotional maturation, during which youth begin to spend greater portions of their lives outside of the family environment, and are exposed to a larger variety of potential influences, most notably of which are their peers (Blair and Dong 2021). Understandably, as youth spend increasingly more time with peers and the larger community contexts, there are a wide variety of risk-taking activities which may present themselves, including delinquency, sexual activities, and substance use. Researchers have often pointed to the need for further investigation of how these multiple contexts may impact adolescents' susceptibility to becoming involved in risk-taking behaviors, and particularly substance use (Chuang et al. 2005). Despite legal barriers, adolescents are increasingly likely to engage in substance use as they age, with alcohol being the most commonly used substance, with cigarette and marijuana usage becoming increasingly likely,

Sociological Viewpoints
Volume 36, Issue 1, 61-82

ISSN: 1060-0876/doi:10.26908/3612022_015

thereafter (Johnston et al. 2019). American high school students seem to regularly partake of substances, as approximately 35% report drinking alcohol (Kann et al. 2014), achieving a feeling of being "drunk" roughly 2.5 times per month (Yurasek et al. 2019). It is estimated that approximately 3,200 adolescents will have their first cigarette, each day (Centers for Disease Control 2014), while an additional 23% of high school students report using marijuana (Kann et al. 2014).

Among adolescents, the use of substances have been associated with a wide variety of deleterious outcomes. The consequences of substance use have been shown to include poor school performance (Grigsby et al. 2017), the deterioration of both physical and mental health (Myers et al. 2001), higher rates of substance use during adulthood (Boden et al. 2006), engagement in risky sexual behaviors (Chen and Jacobson 2012), and higher rates of juvenile delinquency (Bright et al. 2017) and subsequent criminal activities in early adulthood (Green et al. 2016). The harmful impact of adolescent substance use is not limited to the teen years, as numerous studies have linked such usage to lasting consequences in the adult years (Griffin et al. 2015). With such an array of potentially harmful consequences, researchers have emphasized the need for obtaining a better understanding of the contexts in which adolescent substance use takes place, with particular emphases upon the influence of peers (Medrut 2015).

Although a multitude of contextual factors, including parents, paid employment, and school environments can all potentially affect adolescents' desire to partake of various substances, researchers have consistently demonstrated the associations between peers and adolescent substance use (Blair and Dong 2021). Peers serve as role models, and can demonstrate the viability of risk-taking behaviors (Van Ryzin et al. 2012; Wallace 2015), such as substance use, yet they can also encourage such usage, directly offer various substances, openly promote permissive attitudes concerning substance use, and even equate substance use with social acceptability within their respective peer groups and cliques (Crawford and Novak 2002; King et al. 2014). The desire to "fit in" with one's peers can be quite substantial during the adolescent years, and membership in a given peer group has been shown to lead adolescents to adopt the substance use patterns of others (Su and Supple 2016).

The proposition of many previous studies is that adolescents will readily conform to the expectations of their peers (Grigsby et al. 2017), thus elevating peers to a role wherein they can substantively increase the risk of substance use. Researchers have revealed that having peers who engage in risky behaviors is associated with adolescents having higher rates of drinking alcohol (Akers 2009), smoking cigarettes (Kobus 2003), and using marijuana (Fagan et al. 2013). Beyond substance use behaviors, peers also affect perceptions of risk-taking behaviors, and particularly the perceptions of harm associated with such usage, thus influencing adolescents' preferences for substance use (Leban and Griffin 2020). While heightened risks of substance use have been shown to be associated with a variety of peer characteristics, there have been calls for research which examines the manners in which peers can also dissuade others, thus reducing adolescent substance use (Farrell et al. 2017). It is logical to assume that promotive factors, which can potentially reduce the likelihood of adolescent substance use, can exist simultaneously with risk factors (Mmari et al. 2010).

While adolescents' peers have the potential to increase rates of substance use, peers may also reduce the same rates of usage (Blair and Dong 2021; Brenner et al. 2011; Farrell et al.

2017). The need to disentangle the extents to which peers may both decrease and increase the likelihood of adolescent substance use remains (Santor et al. 2000). The unique nature of urban environments upon peer relationships (e.g., Lardier et al. 2018), as well as existing gender differences in peer influence (e.g., Galambos 2004), make such examinations even more necessary. This study will examine the influence of peer effects upon urban adolescent substance use, as well as the possible gender differences which may exist. Given the different nature of female and male peer relationships in adolescence (Galambos 2004), as well as the differences in their respective levels of substance use (Bright et al. 2017), this study will focus upon how urban females and males are affected by their peers, in regard to the use of various substances.

ADOLESCENT SUBSTANCE USE, PEERS, AND GENDER

Research on adolescent substance has repeatedly confirmed the fears of many parents – young females and males frequently partake of a variety of substances (Blair 2017). In the United States, adolescents are legally prohibited from purchasing and/or using alcohol, tobacco, and marijuana (and all other illegal and illicit substances), yet the majority of teens report having relatively easy access to substances (Bouchard et al. 2018; Dermody et al. 2020). On average, approximately 88% of high school seniors report having no difficulties in obtaining alcohol, while approximately 81% report having no difficulties in obtaining marijuana (Johnston et al. 2019). Although a wide variety of harsher and more dangerous substances exist, adolescents commonly use those which are most readily available. Approximately 66% of high school seniors report using alcohol, 34% report having smoked cigarettes, and 44% report having used marijuana (Johnston et al. 2019). Such usage patterns are not without consequences, as researchers have consistently noted the array of deleterious outcomes resulting from adolescent substance use (Boden et al. 2006; Grigsby et al. 2017), including involvement in juvenile delinquency, poor school performance, substance addiction, and engagement in a wide variety of risk-taking behaviors.

Alcohol and tobacco are typically the first substances used by adolescents, commonly during the early adolescent years, with the use of other substances, such as marijuana, occurring later (Bright et al. 2017). The presence of alcohol within family homes makes it readily available for most teens, and early experimentation typically leads to higher rates of usage in the mid-teen years (Hausheer et al. 2016). Gender differences do existas females tend to consume higher rates of alcohol during the early adolescent years (Chen and Jacobson 2012), yet adolescent males' alcohol consumption surpasses that of females by mid-adolescence (Miech et al. 2015; Tomek et al. 2019). Researchers have suggested that the differences in adolescent females and males may be associated with differences in cognitive and emotional maturation, but also differences in their respective experiences with peers (Chan et al. 2013; Tomek et al. 2019). Drinking alcohol with ones' peers may be regarded as a means of demonstrating masculinity by adolescent males (Lemle and Mishkind 1989), yet among adolescent females, the same drinking behaviors may be regarded as unfeminine, and potentially lead to negative stigmatization by female peers (Shippee and Owens 2011). Indeed, adolescent females will often express open discouragement of drinking, thus providing a promotive influence from the peer environment (McCarthy et al. 2004). As might be anticipated, adolescent males tend to report higher levels of drinking (and consumption of most other substances), as compared to females (Blair and Dong 2021; Johnston et al. 2019).

Traditional cigarette smoking rates have declined, over recent years, as adolescents have chosen alternatives, such as vaping (electronic cigarettes)(Dutra and Glantz 2017). Females tend to be more likely to smoke, as compared to their adolescent male counterparts (Johnston et al. 2019). Among adolescent females, smoking has been associated with levels of stress and anxiety, wherein smoking is then regarded as a coping mechanism, yet this also may lead females to a more rapid dependency upon nicotine (Richardson et al. 2011). Emotional factors also play a role in smoking during adolescence, as low self-esteem, poor school performance, and lower levels of self-efficacy have all been associated with higher rates of smoking (Blair and Dong 2021; Kandel et al. 2004). In a manner akin to alcohol consumption, peer associations are a strong determinant of both initial smoking and subsequent smoking rates among adolescents (de la Haye et al. 2019; Fujimoto and Valente 2012). Among females, smoking is often linked to the desire to lose weight (thus conforming to gendered stereotypes concerning body image), and also to gain the approval of peers (Tomec et al. 1999).

Marijuana usage has been shown to be relatively common among adolescents, with almost half of all high school seniors reporting having tried it (Johnston et al. 2019). Although marijuana laws have become more relaxed over recent years, it remains a strictly illegal substance for adolescents. Marijuana is the third most used substance among teens (Blair and Dong 2021; Chen et al. 2017; Johnston et al. 2019), next to alcohol consumption and smoking, and most adolescents regard its use as acceptable and relatively harmless (Stoddard and Pierce 2018). Peer associations are a substantial factor in marijuana usage by adolescents (Defoe et al. 2018), and the pressure to conform (giving in to using marijuana) has been shown to be more salient among young males (Farrell et al. 2017). Oddly, while cigarette use has often been viewed favorably by adolescent females, marijuana use is considered to be less consistent with notions of femininity (Warner et al. 1999). The potential interweave of peer influence and gender stereotypes could be quite influential in the lives of adolescents, particularly as they are pursuing a sense of identity (Blair 2017).

UNDERSTANDING SUBSTANCE USE IN THE URBAN CONTEXT

Although adolescent substance use rates have declined somewhat over recent years, the ongoing rates of usage continue to raise considerable concerns over the well-being of adolescents (Marotta and Voisin 2017). Young females and males in urban areas, in particular, are often regarded as being at greater risk of substance use and its associated consequences (Lardier et al. 2018). The greater concern for urban adolescents is commonly linked to easier access to substances (e.g., alcohol, marijuana) within urban communities (Almeida et al. 2012), a wide variety of stressors (e.g., crime, poverty, congestion) common to urban areas (Brenner et al. 2013), and limited means to prevent and treat substance use and abuse (Kirshner 2015).

The contextual factors which have been shown to influence adolescent substance use clearly include family, parental, and peer characteristics, yet urban environments may affect, both directly and indirectly, the nature of the aforementioned factors. The stressful nature of urban life, for example, may lead adolescents to use various substances as a means of coping with those stressors (Jackson et al. 2009). Indeed, the standard sequence of substance use – alcohol, tobacco, and then marijuana – may be easier within an urban context, as these substances are more readily available (Almeida et al. 2012). Within urban neighborhoods, parental monitoring and control over their adolescents may be hindered by poor mental health and substance use on the part of the parents (Chuang et al. 2005). Additionally, the potential influence of peers may be magnified within urban areas, where greater contact with peers, in conjunction with higher stress environment, may make adolescents more susceptible to peer pressure and the need to conform to peer group standards (Barman-Adhikari et al. 2014). This pattern of strong peer influence upon adolescent substance use has been demonstrated by previous studies (e.g., Clark et al. 2011; Wilson and Donnermeyer 2006).

The influence of urban peers, particularly as it pertains to substance use, requires a better understanding of how the multiple contextual factors may affect the propensity of youth to engage in substance use. Building upon ecological theory, which stipulates that adolescent development is influenced by relationships within the various levels of their social environment (Bronfenbrenner 1979), ecodevelopmental theory posits that adolescents are both influenced by their surrounding environment, and they themselves can also affect those same environments (Overton 2010). This perspective emphasizes developmental processes which can occur across multiple systems, including family, community, and particularly important in the consideration of adolescence, peers. Ecodevelopmental theory recognizes that systems such as family and peers can affect behaviors, such as adolescent substance use, in both individual and combined manners. A key benefit of this perspective is that it recognizes the potential for both positive and negative influence by peers (Booth et al. 2021; Brenner et al. 2011), and thus allows for a fuller understanding of how peers can potentially influence risk-taking behaviors such as substance use (Mason et al. 2016). Within this study, peers are precisely regarded as having the potential to both encourage and discourage substance use (Farrell et al. 2017), and these influences can exist simultaneously, depending upon the nature of the peers and larger social contexts. In order to more accurately assess this possibility, analyses of a representative sample of urban high school students will now be performed.

DATA AND METHODS

Data for this study are taken from the 2019 wave of the Monitoring the Future survey (Monitoring the Future: A Continuing Study of American Youth). The Monitoring the Future study began in 1975, with the intention of examining patterns of substance use among American adolescents. This annual survey assesses a broad range of behaviors and attitudes, in addition to its particular focus upon substance use. Respondents were assured of the confidentiality of their answers, making their answers more likely truthful. The sample is a nationally representative sample of high school seniors, taken from approximately 130 public and private high schools throughout the United States. After removing cases due to missing data, the resulting sample is comprised of 528 females and 471 males, all of whom are 17 to 19 years of age.

Three measures of substance use are utilized in this study. These are: alcohol use, vaping (electronic cigarettes), and marijuana. In terms of alcohol use, adolescents were asked how often they had drank alcohol over the past 30 days. Responses ranged from: 1) "0 occasions," 2) "1-2 occasions," 3) "3-5 occasions," 4) "6-9 occasions," 5) "10-19 occasions," 6) "20-39 occasions," to 7) "40 or more occasions." In terms of vaping (electronic cigarettes), respondents were asked how often they have vaped over the past 30 days, with responses ranging from: "0 days," "1-2 days," "3-5 days," "6-9 days," "10-19 days," to "20 days or more." Respondents were also queried concerning their use of marijuana (i.e., how often they had used it over the past 30 days). Responses to the marijuana query utilized the same scale as the measure of alcohol use. These three substances are the most commonly used by adolescents in the United States.

Central to this study is the consideration of potential peer effects, both positive and negative, upon adolescent substance use. Respondents were asked: “How do your CLOSE FRIENDS would feel about you doing each of the following things?” The items included “having five or more drinks (of alcohol),” “smoking one or more packs of cigarettes per day,” and “smoking marijuana regularly.” Responses to these items ranged from “not disapprove,” “disapprove,” to “strongly disapprove.” Beyond disapproving of substance use, peers can also function as role models for such usage. Respondents were asked, in separate questions, how many of their friends use cigarettes and marijuana. Responses to these items ranged from “none” to “all,” across a five-point scale. Given that potential peer influence is directly associated with peer contact, respondents were also asked how often they get together with friends, with responses ranging from “never” to “daily,” across a six-point scale.

Parental and individual characteristics of the high school students were included in the analyses. Respondents were asked how many parents lived with them (coded as 1=two parents, 0=other than two parents). In terms of parental educational attainment, the highest level of parental educational attainment was coded as: 1=grade school, 2=some high school, 3=high school degree, 4=some college, 5=college degree, to 6=graduate degree. A measure of parental control, which encompassed how often parents: 1) required their children to do chores, 2) limited the time watching television, and 3) limited the time going out with friends. These three items were combined into a single composite measure, with the resulting responses ranging from 3 to 12 (with the higher score indicating greater parental control). Given that employment during the adolescent years is relatively common, and has been associated with substance use, respondents were asked how many hours, each week, they were employed. Responses to this item ranged from: 1) 5 hours or less, 2) 6 to 10 hours, 3) 11 to 15 hours, 4) 16 to 20 hours, 5) 21 to 25 hours, 6) 26 to 30 hours, 7) 31 to 35 hours, to 8) 36 hours or more. In regard to educational aspirations, respondents were asked how likely it was that they would go on to a four-year college degree (responses ranged from 1=definitely won’t to 4=definitely will). Given that substance use may be related to being socially active, respondents were asked how often they went out in the evenings, each week. Responses to this item ranged from: 1=less than once each week, 2=once each week, 3=twice each week, 4=3 times each week, 5=4 or 5 times each week, to 6=6 or 7 times each week. Finally, respondents were asked how difficult it would be for them to obtain either marijuana or alcohol. Responses to these items ranged from “probably impossible” to “very easy,” across a five-point scale, with a higher score indicating a greater ease of obtaining the substances.

Results

Table 1 presents the mean levels of alcohol, vaping, and marijuana use among urban adolescents. The means are presented by sex, in order to assess the differences which may exist in the substance use patterns of females and males. In terms of alcohol use, slightly more males (32.9%) reported having drank alcohol over the past 30 days, as compared to females (28.6%). In regard to higher rates of alcohol consumption, 4.3% of males reported having 10 or more alcoholic drinks over the past month, while only 1.9% of females reported likewise.

Table 1. Levels of Substance Use among Urban Adolescents, by Sex

	Alcohol	
	Females	**Males**
Used in past 30 days	28.6%	32.9%
Rate of Usage		
Never	71.4%	67.1%**
1-2 times	19.1	19.1
3-5 times	4.5	5.9
6-9 times	3.0	3.6
10-19 times	0.9	3.0
20-39 times	0.2	1.1
40+ times	0.8	0.2
	Vaping	
	Females	**Males**
Used in past 30 days	20.8	28.0%
Rate of Usage		
Never	79.2%	72.0%***
1-2 days	6.6	5.3
3-5 days	1.9	4.2
6-9 days	1.9	3.4
10-19 days	1.7	2.5
20+ days	8.7	12.5
	Marijuana	
	Females	**Males**
Used in past 30 days	21.0%	24.0%*
Rate of Usage		
Never	79.0%	76.0%
1-2 times	8.1	9.3
3-5 times	3.8	2.3
6-9 times	2.5	3.2
10-19 times	3.2	3.4
20-39 times	1.9	1.1
40+ times	1.5	4.7
N	**528**	**471**

Note: Significance levels refer to mean differences by sex;
*** $p < .01$, ** $p < .05$, * $p < .10$; Sample is limited to urban high school seniors, aged 17-19

A similar pattern is shown in regard to vaping, where males are significantly more likely to vape, as compared to females. Among males, 28.0% reported having vaped over the past 30 days, while only 20.8% of females reported doing the same. As with alcohol, higher usage rates are shown to be more prominent among males, with 15.0% vaping 10 or more days over the past month, as compared to only 10.4% of females. Marijuana usage rates follow a similar pattern, with higher usage rates reported by males, as compared to females (24.0% versus 21.0%, respectively). Across all three substances, it is quite clear that adolescent males report significantly higher rates of usage.

Table 2 presents the mean levels of peer characteristics among urban adolescents. In regard to peer disapproval of alcohol consumption, there are no significant differences between females and males, with both reporting a moderate amount of disapproval from their close friends about drinking. Cigarette use, however, was more strongly disapproved of by the peers of females, as compared to males. A similar difference in disapproval by peers is shown in regard to marijuana usage, where the peers of females were significantly more likely to disapprove of such use, as compared to the peers of males. The possible effects of these gender differences in peer disapproval of substance use will be addressed later in this study.

Table 2. Mean Levels of Peer Characteristics among Urban Adolescents, by Sex

	Females		Males	
	Mean	**SD**	**Mean**	**SD**
Peer Disapproval of:				
Alcohol (1-3)	2.30	0.80	2.30	0.84
Cigarettes (1-3)	2.70**	0.54	2.66	0.61
Marijuana (1-3)	2.20***	0.82	2.04	0.80
# of Friends who use:				
Cigarettes	1.50**	0.69	1.62	0.75
None	58.7%	50.5%		
A few	34.3	39.9		
Some	5.1	7.4		
Most	1.7	1.3		
All	0.2	0.8		
Marijuana	2.32	1.11	2.33	1.11
None	26.5%	26.3%		
A few	35.6	35.5		
Some	20.8	20.0		
Most	13.4	15.3		
All	3.6	3.0		
Get together w/Friends	4.03**	1.12	4.20	1.15
Never	1.7%	1.9%		
Few times/year	5.7	5.5		
1-2/month	23.3	15.5		
Once a week	36.7	38.9		
Almost daily	22.2	23.8		
Daily	10.4	14.4		
N	**528**		**471**	

Note: Significance levels denote difference between means: *** p<.01, ** p<.05, * p<.10; Sample is limited to urban high school seniors, aged 17-19

Peers also represent behavioral role models for adolescents, and such modeling is particularly relevant in terms of substance use. As shown, smoking (cigarettes) is significantly higher among the peers of males. Interestingly, there are no significant differences in marijuana use between the peers of females and males. It is worth noting that only approximately one-fourth of the respondents reported that "none" of their friends used marijuana. While only a small percentage reported that all of their friends did so, this does suggest that marijuana use is quite common within the peer groups of urban adolescents. The potential influence of peers as behavioral role models is magnified by the extent of contact they have with one another. As shown, the overwhelming majority of respondents report getting together with their friends on a fairly regular basis, as is typical among adolescents.

Table 3 presents the mean levels of peer, parental, and individual characteristics among urban adolescents. Approximately two-thirds of respondents reported having two parents in the home, which is consistent with national patterns. Parental educational attainment was moderate, with the average parent having some college, but not a four-year degree, on average. Parental control was also shown to be moderate, with females and males, alike, reporting approximately the same extent of parental control. Respondents also reported spending an average of 10 hours, per week, working in a paid job.

Table 3. Mean Levels of Peer, Individual, and Parental Characteristics among Urban Adolescents, by Sex

	Females		**Males**	
	Mean	**SD**	**Mean**	**SD**
Two Parents (0-1)	0.62	0.48	0.66	0.47
Parental Education (1-6)	4.16	1.31	4.18	1.31
Parental Control (3-12)	7.43	1.79	7.31	1.83
# Hours/week Working (1-7)	3.28	2.38	3.28	2.43
College Aspirations (1-4)	3.48***	0.84	3.09	1.02
# Evenings Out (1-7)	2.90**	1.34	3.11	1.41
Easy to get Marijuana (1-5)	4.26**	1.05	4.10	1.21
Easy to get Alcohol (1-5)	4.37*	1.09	4.23	1.22
N	**528**		**471**	

Note: Significance levels denote difference between means: *** p<.01, ** p<.05, * p<.10; Sample is limited to urban high school seniors, aged 17-19

Females and males did differ significantly in terms of their respective college degree aspirations, with females having higher educational attainment goals than their male counterparts. Males did report spending more evening out, which may very well be equated with educational attainment goals. In regard to their reported ease of obtaining marijuana, females appear to perceive that it is easier to obtain, as compared to males (4.26 versus 4.10, respectively). The same distinction was shown in terms of the ease of obtaining alcohol, where females reported a greater ease of getting it, as compared to males. These differences are intriguing, particularly in light of the differences in the actual usage patterns between female and male urban adolescents. In order to better disentangle such potential influences, multivariate analyses will now be presented.

Table 4. OLS Regression Models for Alcohol Use among Urban Adolescents, by Sex

	Females		Males	
	Model 1	**Model 2**	**Model 1**	**Model 2**
Peer Disapproval of:				
Alcohol	-.220***	-.189***	-.256***	-.268***
	(-.186)	(-.160)	(-.196)	(-.206)
Cigarettes	.033	.026	.082	.084
	(.019)	(.015)	(.046)	(.047)
Marijuana	.001	.022	-.127*	-.094
	(.001)	(.019)	(-.092)	(-.068)
#Friends use Cigarettes	.183***	.177***	.142**	.120*
	(.134)	(.129)	(.097)	(.082)
#Friends use Marijuana	.090**	.067	.156***	.103*
	(.105)	(.079)	(.157)	(.104)
Get together w/Friends	.191***	.129***	.120***	.096**
	(.226)	(.153)	(.125)	(.100)
Two Parents		.090		.034
		(.046)		(.015)
Parental Education		.050		-.022
		(.068)		(-.026)
Parental Control		-.046**		.015
		(-.086)		(.024)
#Hours/week Working		-.001		.058***
		(-.003)		(.128)
College Aspirations		-.144***		-.047
		(-.127)		(-.044)
#Evenings Out		.099***		.003
		(.139)		(.004)
Easy to get Marijuana		.010		.087
		(.011)		(.096)
Easy to get Alcohol		.091*		.072
		(.105)		(.079)
F	14.279	8.895	14.703	8.397
R-square	.141	.195	.160	.205
N	**528**		**471**	

Note: Standardized coefficients shown in parentheses; *** p<.01, ** p<.05, * p<.10;
Sample is limited to urban high school seniors, aged 17-19

Table 4 presents the multivariate regression models for alcohol use among urban adolescents. Separate models are provided for females and males, with Model 1 containing only the peer characteristics (disapproval and modeling), and Model 2 containing all included independent variables. Among females, peer disapproval of alcohol use yields a strong negative association with respondents' reported alcohol consumption (b = -.220 in Model 1, and b = -.189 in Model 2). Having friends who smoke cigarettes, however, is shown to be positively associated with females' alcohol consumption in both models (b = .183 and .177, respectively). Peer use of marijuana is also positively associated with females' alcohol use in Model 1 (b = .090), but this association is insignificant with the full model. Peer influence is also evident in terms of getting together with them, which is positively associated with female alcohol consumption (b = .191 and .129, in Models 1 and 2, respectively).

Among males, peer characteristics yield a pattern of associations which is similar to those shown among females, such that peer disapproval of alcohol is negatively associated with actual consumption, yet cigarette and marijuana use, along with greater peer interaction, are associated with higher levels of alcohol consumption. Interestingly, while parental control is shown to be negatively associated with females' alcohol use (b = -.046), parental control does not significantly influence male alcohol use. Likewise, paid employment is positively associated with males' alcohol use (b = .058), but employment does not seem to affect females' use of alcohol. Among females, college aspirations significantly detract from alcohol use (b = -.144), yet college aspirations do not significantly influence the drinking behaviors of males. Finally, females' drinking behaviors are positively associated with spending more evenings out, yet the same effect is not shown to be significant among males. Clearly, there is a substantial set of distinctions between the factors associated with urban female and males adolescents' alcohol consumption, yet it is also appears that peer influences are, for the most part, similar for both.

Table 5. OLS Regression Models for Vaping Use among Urban Adolescents, by Sex

	Females		Males	
	Model 1	**Model 2**	**Model 1**	**Model 2**
Peer Disapproval of:				
Alcohol	-.083	-.055	-.361***	-.368***
	(-.044)	(-.029)	(-.172)	(-.175)
Cigarettes	.036	.043	.243	.238
	(.013)	(.015)	(.085)	(.083)
Marijuana	-.155	-.108	-.346***	-.311***
	(-.084)	(-.058)	(-.156)	(-.140)
#Friends use Cigarettes	.491***	.479***	.300***	.258**
	(.223)	(.217)	(.127)	(.109)
#Friends use Marijuana	.047	.017	.128	.070
	(.034)	(.012)	(.080)	(.044)
Get together w/Friends	.286***	.179***	.253***	.150**
	(.210)	(.131)	(.164)	(.097)
Two Parents		.123		-.032
		(.039)		(-.008)
Parental Education		.065		.027
		(.056)		(.020)
Parental Control		-.032		.017
		(-.037)		(.018)
#Hours/week Working		.059**		.076**
		(.092)		(.105)
College Aspirations		-.225***		-.181**
		(-.123)		(-.105)
#Evenings Out		.155***		.169***
		(.136)		(.135)
Easy to get Marijuana		-.007		.114
		(-.005)		(.078)
Easy to get Alcohol		.157**		-.003
		(.113)		(-.002)
F	11.167	7.267	14.811	8.691
R-square	.114	.165	.161	.211
N	**528**		**471**	

Note: Standardized coefficients shown in parentheses; *** p<.01, ** p<.05, * p<.10; Sample is limited to urban high school seniors, aged 17-19

Table 5 presents the multivariate regression models for vaping among urban adolescents. Among females, none of the peer disapproval measures are shown to be significant. However, having friends who smoke cigarettes is, as anticipated, positively associated with vaping, among females (b = .491 and .479, in Models 1 and 2, respectively). Given that the nature of vaping and cigarette use is largely the same, this form of peer influence is understandable. Further, higher levels of peer interaction (getting together with friends) is also positively associated with females' vaping usage. In comparison, when males' friends disapprove of alcohol and marijuana, these factors are negatively associated with males' vaping usage (b = -.368 and -.311, respectively, in Model 2). Similar to the pattern shown among females, having friends who smoke cigarettes is positively associated with vaping, among males, as is having a higher level of peer interaction. These effects raise questions concerning gender distinctions in regards to peer disapproval, as such disapproval seems to result in a more salient impact upon males. Beyond the peer disapproval differences, the full models for females and males reveal several similar patterns. For both sexes, paid employment and spending more evenings out are positively associated with vaping, while the desire to attain a college degree is negatively associated with vaping. These models certainly suggest that there are multiple layers of contextual factors which influence the likelihood of substance use among urban adolescents.

Table 6. OLS Regression Models for Marijuana Use among Urban Adolescents, by Sex

	Females		Males	
	Model 1	**Model 2**	**Model 1**	**Model 2**
Peer Disapproval of:				
Alcohol	.060	.061	.015	.005
	(.037)	(.038)	(.008)	(.003)
Cigarettes	-.011	-.026	.247***	.262**
	(-.005)	(-.011)	(.097)	(.103)
Marijuana	-.450***	-.390***	-.555***	-.530***
	(-.284)	(-.246)	(-.281)	(-.268)
#Friends use Cigarettes	.226***	.216***	.121	.083
	(.120)	(.115)	(.058)	(.040)
#Friends use Marijuana	.247***	.246***	.226***	.223***
	(.211)	(.210)	(.160)	(.157)
Get together w/Friends	.139***	.036	.233***	.197***
	(.119)	(.031)	(.171)	(.144)
Two Parents		-.072		-.112
		(-.027)		(-.034)
Parental Education		-.002		-.026
		(-.002)		(-.022)
Parental Control		-.001		.034
		(-.002)		(.040)
#Hours/week Working		.009		.070***
		(.016)		(.108)
College Aspirations		-.100		-.120*
		(-.064)		(-.078)
#Evenings Out		.171***		.045
		(.176)		(.041)
Easy to get Marijuana		.104		.047
		(.085)		(.036)
Easy to get Alcohol		-.057		-.002
		(-.048)		(-.001)
F	22.751	11.788	19.197	9.627
R-square	.208	.243	.199	.228
N	**528**		**471**	

Note: Standardized coefficients shown in parentheses; *** p<.01, ** p<.05, * p<.10;
Sample is limited to urban high school seniors, aged 17-19

Table 6 presents the multivariate regression models of marijuana use among urban adolescents. Among females, peer disapproval of marijuana is shown to be negatively associated with marijuana use (b = -.450 and -.390 in Models 1 and 2, respectively), demonstrating that peer disapproval can be quite substantial in the determination of substance use. However, having friends who smoke cigarettes and, more precisely, use marijuana are shown to yield positive associations with marijuana use among urban females (b = .216 and .246 in Model 2, respectively).

The linkage between the effects of peer usage of cigarettes and marijuana is logical, given that both usually involving smoking. These patterns, though, are not the same within the models of males' marijuana usage. Among males, peer disapproval of cigarettes is shown to be positively associated with marijuana use (b = .247 and .262, in Models 1 and 2, respectively). These effects are not only unique to adolescent males, but they seem counter-intuitive. Among contemporary adolescents, it is possible that the perception of tobacco, with its inherent risk of addiction and cancer, may lead young males to view marijuana as a more acceptable alternative. This possibility will be discussed, shortly. As expected, peer disapproval of marijuana is negatively associated with males' own marijuana use (b = -.530 in Model 2). Unlike their female counterparts, males are not significantly influenced by having friends who smoke cigarettes, yet are affected by having friends who use marijuana (b = .197 in Model 2). These combinations of peer factors associated with cigarettes, as they affect females' and males' usage of marijuana, are rather fascinating, and perhaps underscore the intricate nature of multiple forms of substance use among urban adolescents. Furthermore, peer interactions (getting together with friends) seems to have a greater bearing upon males' marijuana use, as compared to females. Overall, these results point to a complicated context in which urban adolescents use various substances. The implications of these findings will now be discussed.

CONCLUSIONS AND DISCUSSION

Researchers, practitioners, and parents have long been concerned about adolescent substance use, and given the wide variety of potentially deleterious consequences of such usage, those concerns are well founded. Over recent years, the overall rates of adolescent substance use have declined, yet the findings of this study suggest that the consumption of alcohol, e-cigarettes, and marijuana remain relatively common. Like so many behaviors during the adolescent years, substance use typically occurs within a group context. Teens frequently gather at parties, raves, or to merely hang out with friends, and during such gatherings, it is not uncommon for alcohol, e-cigarettes, and marijuana to quickly become present. The traditional view of peers and substance use has been decidedly framed around the notion of peers as harmful agents – modeling, encouraging, and providing substances to other adolescents. As noted previously, this view, while typical of how many parents regard the friends of their adolescent daughters and sons, fails to recognize that peer influence can be positive and negative, in regard to its impact upon the likelihood of adolescents using various substances. The findings of this study provide strong confirmation of this broader perspective of peer associations during the adolescent years, as demonstrating the distinct manners in which peer characteristics influence females and males.

As shown in the multivariate analyses, the influence of peers upon adolescent substance use is not limited to encouraging such usage. Having friends who used substances was significantly associated with higher levels of substance use, yet peer disapproval was shown to be equally substantial in affecting reported rates of substance use. For both females and males, peer disapproval of drinking was strongly associated with lower levels of alcohol consumption, demonstrating the presence of both positive and negative peer effects. The significant associated shown between substance use and time spent with friends leaves little question about the social nature of substance use during the adolescent years. These years, after all, are a time of maturation and increasing independence, a time of identity formation, and a time of experimentation of many forms. Drinking, smoking, sex, delinquency – these are all behaviors which bring worries in the minds of parents, but are often viewed by adolescents as desirable, and particularly so within a peer context. To their credit, the impact of peer disapproval of substance use, as shown in this study, presents a different view of teens, not as a collective of young people determined to get into trouble, but a group of developing individuals who can both actually prompt one another to avoid trouble. This dualist potential of peer influence is in keeping with the ecodevelopmental perspective; simply, adolescents formulate attitudes and select behaviors based upon the influence of multiple levels of their surrounding environments. Their peers are not created from identical molds, and can affect one another in a multitude of manners.

Across the three substances studied herein, it is also worth noting that peer disapproval was more substantial in reducing males' substance use rates. This is quite intriguing, as researchers have previously demonstrated the intricate nature of female peer influence. In this study, the disapproval of males' peers was shown to be significantly associated with lower levels of drinking, vaping, and marijuana usage. These effects were not limited to the same substance category, but instead seem to suggest that when males' peers disapprove of one substance, it has a deterring impact upon their usage of other substances, as well. Although the overall substance use rates are similar for females and males, it seems apparent that there remains a gendered difference in how peers affect such patterns of use. At the very least, these findings call into question the stereotyped belief that adolescent males engage in substance use largely as a means of demonstrating their masculinity. Peer proximity (getting together with friends) is shown to be a salient predictor of substance use, yet the impact of peer disapproval suggests that adolescent males' use of various substances is being affected in manners which are perhaps more nuanced and discrete than previously thought.

The results shown in this study support the contention of ecodevelopmental theory, as the influence of peers among urban youth is quite substantial. There remains a need, however, for further investigation, as the cross-sectional data used in this study cannot provide a comprehensive examination of how these and other contextual factors within adolescents' environments are serving to influence their perspectives and eventual behavioral choices concerning substance use. While many have viewed peers influence as being fraught with a variety of rather harmful outcomes, these findings demonstrate that adolescents' peers can also provide a salient element of deterrence. A variety of potentially harmful behaviors within the teen years are tempting – substance use, sex, delinquency – yet it is clear that adolescents influence one another in positive manners, as well. These results support ecodevelopmental theory, and also underscore the differences among female and male adolescents. Future research should attempt to focus upon the more discrete processes operating with peer relationships during the adolescent years.

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PENNSYLVANIA SOCIOLOGICAL SOCIETY GRADUATE STUDENT PAPER AWAREE: Situational Sexuality and Straight Men's Eroticism on OnlyFans

Tyler Burgese

ABSTRACT
This research investigates identity presentation and management on OnlyFans, a subscription-based platform where users post explicit content for their audiences. In nine qualitative interviews with a convenience sample of straight male creators on this platform, I asked questions about their motivations to perform for gay male audiences on OnlyFans and how they construct and maintain their straight identities while performing this work. These conversations reveal that the online context of OnlyFans lends a certain elasticity to straight identities that waives the requirement for traditionally rigid categories. Thus, I argue that straight men perform eroticism on OnlyFans for gay male audiences because the financial incentive to do so and the digital distance that the platform affords both outweigh the potential stigma that this transgression of identity categories would typically create. This work extends the literature on situational homosexuality and gay-for-pay pornography by identifying a new platform for online sex work with fewer barriers to entry and more flexible identity allowances.

KEYWORDS: Sexualities; situational homosexuality; gay-for-pay; OnlyFans; erotic labor; online sex work

Notable changes in the sex work industry have recently occurred as a result of the internet. Traditional in-person venues for sex work like outdoor strolls, print advertisements, brothels, and agencies have declined in use as this work and its facilitation has shifted online. Beyond convenience, online sites offer enhanced safety features in comparison to in-person venues, including the ability to screen clients in advance, increased accessibility and autonomy, reduced risk of violence, and, of course, more lucrative returns (McLean 2015; Argento et al. 2018).

To be clear, sociologists have been studying sex work for a very long time (Sanders, O'Neill, and Pitcher 2018 offer an excellent overview), though many scholars have acknowledged the shortcomings of this tradition, including a tendency toward overgeneralization, essentialism, and moral condemnation (Weitzer 2000). Another common criticism of early studies of sex work is that they have glaringly lacked the inclusion of specific populations, including the existence and complexity of male sex workers, who have participated in sex work since its inception, despite the majority of visible sex workers historically being

Sociological Viewpoints
Volume 36, Issue 1, 83-100

ISSN: 1060-0876/doi:10.26908/3612022_016

women (Weitzer, 2009). Studies of online sex work have worked to improve on these past shortcomings (Jones 2015).

OnlyFans is a UK-based online platform that hosts paid subscriptions to exclusive content provided by individual creators and has become one of many common venues for explicit videos and images of male sex workers. Other platforms include PornHub, Patreon, ManyVids, JustForFans, and 4myfans, and it is not uncommon for individual creators to have a presence on several of these sites at the same time. OnlyFans is a noteworthy juggernaut among this crowd, however, because of its rapid rise in popularity during 2020 and prominent place in the public eye (Bernstein 2019; Donnelly 2021).

By studying the nature of male sex work on OnlyFans, this work heeds several calls in the sociological study of sex work, such as a focus on male sex workers (Weitzer 2009) and the context of "individualized erotic labor" that is now commonplace thanks to the internet (Jones 2015). To do so, I draw on a subset of a larger sample of masculine-presenting OnlyFans creators to ask questions about straight men's motivations to perform for gay male audiences on OnlyFans and how they construct and maintain their straight identities while performing this work. In answering these questions, I will uncover a narrative about the boundaries of straight male sexuality and the influence of money on their fluctuation. In order to do this work, these men must internally manage their thinking about the discrepancy between their own identities and those of their audiences, in addition to communicating that identity clearly to these audiences.

LITERATURE REVIEW

OnlyFans as a platform

At the time of this writing, OnlyFans has 170 million users, with about 500,000 people joining daily (Wise 2022). While this company painstakingly presents a polished, family-friendly image of itself by strategically marketing its creators as fitness gurus, songwriters, and other creative types, the reality is that this platform is dominated by, and most profitable for, sex workers posting pornography; about 70% of OnlyFans content was classified as NSFW (not safe for work) in the last quarter of 2020 (van der Nagel 2021; Wise 2022). Content on OnlyFans spans a wide range of classifications from the most conventional, normative pornography to highly niche fetishes.

Two of the main traits that set OnlyFans apart from traditional online pornography are its accessibility and individuality. The only requirements for creating an account are internet access and a bank account, so the typical gatekeepers of the pornography industry like agents, auditions, and directors are no longer an issue. The online sex work industry's combination of seasoned professionals and passionate amateurs gives anyone a shot at creating explicit content for an audience in what Feona Attwood terms "pro-amateur production" (2010). Because each creator is in charge of their own content, they are able to retain complete control over what they post and don't post (though they only see 80% of their total earnings).

The coronavirus pandemic is heavily associated with the explosive popularity of this site, as many creators made accounts after losing some or all of their employment due to mandated lockdowns and social distancing protocols. Prior to this, OnlyFans was inhabited almost exclusively by people who were already a part of the sex work industry. The lockdowns ushered in a new population of OnlyFans creators; these were people who had never performed any kind of sexual labor in the past but suddenly adopted it, as it was commonly understood by the public as an easy way to make money (Gowayed, Mears, and Occhiuto 2022). Alongside a growing acceptance and viability of sex work, this new cohort found itself enacting sex work based on their own understandings of what others were doing and what might make them the most money.

To be clear, despite the notable public popularity of the platform, the work that takes place on OnlyFans remains largely private because of the paywall required to access it. Creators on OnlyFans must maintain some kind of public presence in order to draw people to their page (for many, this has been Twitter), but the heart of their businesses are for paying eyes only.

The average OnlyFans creator makes $151 per month and has 20 subscribers (Wise 2022), though the media often focuses on the top tiers who make much more (Bernstein 2019; Donnelly 2021). There are some fascinating disparities in creators' earnings, though, along the lines of gender presentation. Male-presenting creators make significantly less than female-presenting creators on OnlyFans—approximately 60 cents on the dollar (InfluencerMade 2022). This is likely because the majority of OnlyFans creators are women between the ages of 25–35 and typically charge more for monthly subscriptions than male creators (InfluencerMade 2022; Nichols et al. 2020). This creates an opportunity to investigate the experiences of male-presenting OnlyFans creators, in this unique new space where they are suddenly in the minority. This space is fertile ground for study because while the majority of pornography traditionally caters to the straight male gaze, masculine OnlyFans creators are more likely to have audiences mostly comprised of gay men and straight women, among many other identity categories (Neville 2015). Because it's more common for women to sell eroticism in this way than men, masculine presentations in sex work can be seen as subversive.

OnlyFans has provided a platform to amplify male sex workers in particular because its cultural relevance has helped to normalize the practice (Henry and Farvid 2020; Friedman 2014; Mergenthaler and Yasseri 2020). The notion of a male sex worker has traditionally been considered by many to be a "linguistic impossibility," so the constantly expanding population of them on OnlyFans has contributed to the mission of normalizing male sex work (Scott and Minichiello 2014). This rise in visibility is often attributed to the advent of technology that provided new venues for the advertisement and facilitation of male escort services, which have now evolved to include indirect, online-only sex work venues like OnlyFans (Macphail, Scott, and Minichiello 2015; Minichiello, Scott, and Callander 2013). Marketing the male body as a sexual commodity is at odds with common expressions of masculinity that emphasize agency and aggression, thus opening up space for a proliferation of subversive self-presentations.

Situational homosexuality

In examining the discrepancies between sexual identities and sexual behaviors in certain scenarios, scholars typically turn to the phrase "situational homosexuality." This describes same-sex acts between straight men that are assumed to occur only temporarily, and outside of typical circumstances (Kunzel 2002; Escoffier 2003). A multitude of names for this phenomenon take pains to distinguish between true and false sexuality by emphasizing the contextual nature of these sexual acts: adjectives including "deprivational," "facultative," "opportunistic," and "functional" are all used interchangeably when discussing this form of homosexual behavior (Kunzel 2002; Ward 2015). The presence of a monetary incentive adds additional complexity, which is reflected in the most well-known and extensively researched expression of situational homosexuality: gay-for-pay pornography.

As one might infer from such a name, gay-for-pay pornography actors are heterosexual men who perform homosexual acts as part of their employment. Widespread fascination stems from the apparent dissonance between their "actual" sexual orientations and their contradictory ability to deliver convincing homosexual performances (Escoffier 2003). How can they maintain a straight identity while clearly experiencing arousal with other men? Why would a straight man willingly engage in this line of work? How do audiences interpret these men's seemingly fluid sexual identities?

Much of the mystique and fascination surrounding traditional gay-for-pay pornography actors involves the authenticity of their intercourse and the truth of their sexual identities. A simplistic, essentialist understanding of sexuality would argue that any man who has successful sexual relations with another man cannot possibly be 100% straight. However, a nuanced approach to sexual identity does not sell quite as well as the intrigue of speculation, so the paradox of the situational homosexual is often the self-presentation of choice for pornography actors. The possibility that a straight-presenting pornography actor might secretly enjoy his homosexual performances is a driving force for many gay viewers (Dyer 2002). For this reason, it is financially advantageous for male performers to not disclose too much about their personal lives and tease their audience with the false hope that they might have a chance with the object of their sexual fantasy. One convincing factor for audiences is the necessity of authentic on-screen erections and orgasms, though careful editing and behind-the-scenes heterosexual stimulation are often employed, and erections are not necessarily indicative of "bodily truth" or genuine arousal (Escoffier 2003; Waidzunas and Epstein 2015).

According to Mercer (2012), gay men have a "compulsive drive to discover endless iterations and eroticizations of the ideals of masculinity," driving them to seek out pornography genres such as gay-for-pay. This fetishization of masculinity has long been characteristic of gay culture, as fixating on straight men provides the allure of an "unobtainable ideal" (Mercer 2012; Silva and Whaley 2018). Another possible source of this attraction is the incorporation of danger in the sexual realm. Everyday interactions between gay and straight men often carry an undercurrent of threat due to privilege disparities and a long history of homophobia and violence (Connell 1992). Clarkson (2006) interprets this dynamic as "eroticizing the very values of straight society that have tyrannized their own lives."

Justifying the work

The nomenclature of "gay-for-pay" implies that these men would not seek out same-sex partners if they were not being paid (Escoffier 2003; Kahan 2019). Regardless of sexual orientation, all pornography performers must reconcile their identities and intentions in order to allow themselves to do their jobs. Performers will often adopt certain "sexual scripts," which Simon and Gagnon (1986) describe as individuals' interpretations of cultural scenarios and their applications to sexual self-presentation and behavior. Scripting is a vital strategy for gay-for-pay pornography actors to maintain their straight identities while engaging in homosexual behavior. The pathway to sexual permission has been widely theorized, as seen in Escoffier's (2003) "constraints," Kahan's (2019) "models," and Mercer's (2012) "alibis" that allow same-sex behavior. These framing devices are reflective of varying explanations for situational homosexuality; respectively, it can be a product of constraints, it can follow set archetypal models, and it can require excuses. Anderson (2008) also discusses the need for an "antecedent" for most people to accept homosexual behavior, usually a "good cause," such as the fulfillment of heterosexual needs and desires when female partners are not readily available.

The most immediately relevant incentive to gay-for-pay pornography actors is money. People often seek out sex work because of economic constraints (Escoffier 2003) or financial need (Mercer 2012) and in this case specifically, it is well-documented that men are paid much more for filming gay pornography scenes than straight ones (Escoffier 2003; de Villiers 2019; Banks and Titelbaum 2009). Pornography also serves as a stepping stone toward even more lucrative careers in escorting, providing a clear path for advancement. The "highly organized commercial space" of gay-for-pay pornography sites provides all of the necessary resources for straight men to have gay sex (Escoffier 2003). The financial incentive of participation acts as "both impetus and aphrodisiac," as demonstrated by the premise of the popular gay-for-pay pornography site Brokestraightboys.com and their tagline: "Every straight guy has his price" (Mercer 2012; De Villiers 2019).

Self-presentation in sex work

Porn performers, regardless of gender or sexual orientation, display highly curated, specific fronts, referred to by sociologist and sex work scholar Angela Jones (2020) as "manufactured identities." In their research on camming, a sex work practice in which models live-stream content to an online audience, Jones noted that the most important identities for cam models to perform were the "invisible" traits of youthfulness, singleness, and bisexuality in order to appear available to the largest possible proportion of their audience. It is helpful to share the elements of one's identity that are of most interest to the audience while remaining vague and mysterious on most others. Erving Goffman (1959) similarly makes a distinction between the "performer" and the "character" they play, demonstrating the curated, idealized "front" that people display for others. These fronts must be convincing in order to show the audience how to view and interact with them, and most importantly, convince them to take the performance seriously.

The visual aspect of sexual performance is also significant, considering that it is the main source of on-screen appeal and stimulation. Bridges (2014) conceptualizes "sexual aesthetics" as "cultural and stylistic distinctions utilized to delineate symbolic boundaries between gay and straight cultures and individuals." Sex workers may draw on the aesthetic features that they associate with homosexuality to perform the sexual fluency their audiences may be seeking. Though not necessarily constitutive of sexual identities, some relevant attributes of sexual aesthetics include clothing, behavior, language, and mannerisms (Bridges 2014). It is also worth noting that many key elements of sexual aesthetics are not easily controlled or manipulated. Attributes including, but not limited to, age, weight, body type, penis size, and perceived class are crucial factors that dictate how much sex workers can charge for their services and how popular pornography performers may become (Logan 2010; Minichiello, Scott, and Callander 2013; Clarkson 2006).

Due, in part, to this aesthetic expansion of heterosexuality, "homohysteria," or fear that one could be perceived as gay, has been steadily declining for over a decade (Clarkson 2006; Anderson 2008; Bridges and Pascoe 2014; Dean 2014). In its place is what Anderson (2008) calls "inclusive masculinity," which *embraces* feminine expression rather than considering it to be unprofessional or undesirable. By selectively incorporating various sexual “others” into their identities and presentations, straight men are able to tailor what Bridges and Pascoe (2014) call “hybrid masculinities.” These typically take the form of straight men employing gay aesthetics in order to appear more thoughtful and open-minded.

Any deviant behaviors or desires displayed by straight men are considered to be exceptional rather than natural and are therefore unregulated and excused. Straight white men are especially well-equipped to leverage the resources afforded to them in order to dodge stigma and normalize their own behavior (Bridges and Pascoe 2014; Ward 2015). Meanwhile, men of color are allowed no such agency, often written off as discreetly gay or on the “down-low,” or “DL,” for short (Carrillo and Hoffman 2016; Ward 2015). The concept of hybrid masculinities demonstrates that systems of inequality are dependent on one’s level of privilege. While the ability to explore masculinity in previously unforeseen ways is surely significant, it falls short of challenging these systems of power (Bridges and Pascoe 2014).

Upon reviewing the relevant literature, It is clear that a need exists to study male sex work in the new online context of OnlyFans. As one of many venues in which individualized erotic labor now takes place, OnlyFans can provide an illuminating case study about the boundaries of straight male sexuality when catering to a gay male audience. After I lay out the methods I used to perform this research, I will offer a discussion of the themes I noticed in my interviews and what we might learn from them.

DATA AND METHODS

This research draws on nine qualitative interviews with straight male OnlyFans creators. Interviews were the best strategy to answer my research questions because they are designed to explicitly get at process-oriented issues in ways that observation or surveys cannot. Additionally, they allowed me to establish rapport with each creator and probe deeper into the answers that they provided.

I recruited participants by searching Twitter with keywords relating to OnlyFans, gender, and sexual orientation (“straight OnlyFans,” “OnlyFans man/guy/boy” and other variations) because Twitter is one of the main online outlets for account promotion, as it does not censor explicit content. I sent direct messages to 281 accounts found in these search results, explaining my research and asking if they’d be interested in participating. Of those who responded to me, most either were not interested in talking to a researcher or wanted to be paid for the interview, which I was not able to offer. In the end, I conducted 20 interviews with creators of varying identities for a larger project on representations of masculinity on OnlyFans. This paper features nine of those creators because of their straight male identity. Six interviews took place in a private Zoom meeting room that lasted, on average, about one hour each, and three were conducted via email with participants who were uncomfortable or unable to appear for a synchronous conversation (Ratislavová and Ratislav 2014; Hawkins 2018; Burns 2010).

This sample is therefore one of convenience and makes no claims at representing the entire population of straight male OnlyFans creators. However, it is quite broad. Participants ranged in age from 21 to 36 years old and they had been creating on the platform for anywhere between two weeks and two years. Eight of them self-identified as cisgender males and one identified as a transgender male. The average participant had 80 subscribers on OnlyFans, charged $9.16 per month for access to their content, and was ranked among the 22.73% top earners on the platform. Seven of the creators I spoke to self-identified as white or Caucasian while one identified as Asian-American and one identified as Hispanic.

To analyze interview data, I performed open coding of written transcripts in ATLAS.ti (Gibbs 2018). Throughout the process of recruitment and interviewing, I also kept ongoing analytic memos about my observations in order to clarify my thinking and work through what the data were telling me.

All names presented in this research are pseudonyms, though some are the same names that my participants use for their online profiles. Because sex workers usually operate under assumed or professional names and wanted due credit for their effort, some participants asked me to just use that as their pseudonym (Guenther 2009), while others chose a random name or asked me to do the same, as has been done in other research (Heaton 2022; Orne 2017). Additionally, all descriptive and demographic characteristics are self-identified by participants.

This research was approved by Temple University's Institutional Review Board in the fall of 2020 and all initial recruitment messages followed an accepted script. All participants provided verbal and/or written consent prior to our interviews after receiving and reviewing a comprehensive consent form.

FINDINGS

Through the analysis of my transcripts and memos, I came to notice the following themes, to be discussed in order: (1) OnlyFans creators have varying definitions of and relationships to the label "sex worker," (2) straight men curate and perform specific personas when creating content for a gay male audience, (3) participants were mainly motivated by money and attention to engage in this work, and (4) they often set clear boundaries with subscribers to manage expectations.

Sex work definition and identification

To begin, I found widespread disagreement among creators about what exactly constitutes "sex work." The sex work industry is wide-ranging and diverse, and the term "sex work" itself has become an umbrella term include any sexual service from in-person escorting to webcam modeling. In order to avoid misrepresentation, I asked all of my participants for their definitions of sex work as well as whether or not they identify with such a label. Many did identify as such, but some did not, and they each had their own nuanced definition of what it constituted.

One particularly illustrative example can be found in the juxtaposition of definitions from two participants, Waldo and Simon. Waldo is a 32 year-old straight, white man who created his OnlyFans profile in early 2020, at the onset of the coronavirus pandemic. When I asked in our email conversation if he considers himself to be a sex worker, he said, "OnlyFans falls under the umbrella of sex work, whether it's online or in person, if you're making money off selling your body as a sexual object then you're a sex worker." I followed up by asking if he thinks it is common for OnlyFans creators to self-identify as sex workers, to which he responded, "Oh ya, I don't know anyone that doesn't. People that are in the industry don't care about the negative connotation of the labels that accompany it." In situating OnlyFans within the sex work industry, Waldo made clear his stance that any work involving a monetary exchange around sexual pleasure is sex work, and also cited the fact that most of the stigma around this label comes from outside the industry.

Simon, on the other hand, is a 33-year-old white man who identifies as “heteroflexible” and has been a sex worker for upwards of a decade, primarily performing in adult films and on camming websites with his female partner. When considering the age of OnlyFans—6 years old at the time of this writing—Simon’s 2-year tenure on the platforms make him a veteran creator compared to most, so his level of experience provided him with a different perspective on what sex work is and is not:

> You know, I’ve seen people call themselves sex workers that are hardly sex workers…in my mind, a sex worker is someone who has sex with another person to make money. And I think I see a lot of—and actually, OnlyFans people love to do this shit. They call themselves sex workers, they talk about being stigmatized and they talk about how hard it is to be a sex worker when they don't even have to have sex with other people, you know, and that's what being a sex worker is and that kind of ties into what I was saying earlier about what it used to mean to be a sex worker and that's why the title “sex worker” was so bad because it meant you were fucking other people. And that's why it's my—when I call myself a sex worker, I didn't always, because I didn't like that term, but that's what I am. I have sex with other people for money. If I just post a picture of myself on the Internet, and it was just me, I wouldn't really consider myself a sex worker, or at least my own personal definition of what it means.

Here we see that, for Simon, the term “sex worker” is more literal—sex must be performed in order to consider the work as such. From this view, most of Waldo’s OnlyFans content would not be considered sex work because he told me he primarily films solo videos. However, there was also some flexibility in Simon’s adoption of the term. He didn’t fully embrace the "sex worker” label until he pursued it full-time, even though, by his own definition, he had been performing sex work for much longer.

Explanations of work

One of the key things I sought to understand in this research is why straight men perform for gay audiences on OnlyFans. In speaking with participants, I found a variety of answers, but unsurprisingly, money was the most common reason. At its core, what sets OnlyFans apart from other (free to use) social networking sites like Twitter is its business model. Use of the site is intentional for both audiences and creators; it is foremost a financial transaction. If not for this, these men likely would not have made OnlyFans accounts in the first place. With this as a given, I was interested to learn what other factors supplemented the possibility for profit on OnlyFans.

A common theme among a few participants was that of attention as an added benefit of their work. Praise cannot pay the bills, of course, but some men find positive affirmation from their subscribers to be a welcome boost to their self-esteems. Santiago is a 24 year-old pansexual, Hispanic man, in addition to being a rare exception who did not necessarily need the financial benefits of OnlyFans. He cited attention as his primary reason for creating on the platform because his family runs a successful construction business from which he makes his living: “So I don't really have the need for the money, that's why I, I'm telling you that it’s just for the attention. I do like the attention a lot.” Others simply appreciated the praise for their work, regardless of where it was coming from, such as Simon, quoted earlier: “I like being admired…I think it's an honor to have someone to look at you and say nice things about you and I don't care what parts they have while they're doing that.”

One other interesting case can be found in Frank, a 22 year-old straight, white man. His content caters to the foot fetish community, though he himself does not consider himself to be a member. Part of his work includes occasional in-person meetups with fans that have traveled up to eleven hours to partake in sexual “foot worship” sessions with him. Because he does not share this interest with his subscribers, he is able to compartmentalize his work below the waist and rely solely on his own definition of what is sexual: “…me putting my foot on someone, I don't really think of it as a super huge sexual activity…I view more like traditional sex as sex. Um, even though I know there's like so many different definitions of it and how you want to perceive it.” Frank therefore did not take issue with physically touching other men in a way that was pleasurable to them if he himself did not experience that same pleasure, which makes an important point about reciprocity that I will revisit later in this discussion.

I’d like to reiterate once more, though, that those searching for high-level explanations of this work or grand processes of personal reconciliation will be sorely disappointed. Duke, a 21 year-old straight, white man sums this up succinctly: “I don't really think much about it…when I turn on my camera it's time for me go to work, do my job, do whatever makes me money.” While this does not apply to all creators, and not even all that I spoke to, it’s important to remember that for some, it really is that simple. The money is the driver of this line of work, and without it, the work would not exist.

Persona construction

While my participants and the existing literature made it clear that authenticity is a highly valuable commodity in online sex work (Jones 2020; Henry and Farvid 2020; Laurin 2019), there remains a certain level of identity augmentation inherent in online self-presentation. When I probed participants about this in interviews, I noticed that the seemingly manufactured parts of my participants’ identities were usually rooted in some form of truth. That is to say, they amplified certain parts of themselves that they knew would be more desirable on-camera. For example, when describing his camming persona, Simon said, “I’m more extroverted, I’m more assertive, I’m more attentive. [In real life] I’m actually a total ambivert. After my [camming] shows I crawl into my bed and hide...” For many like Simon, the labor necessary to produce these intimate performances is extremely draining. Duke, on the other hand, shared that he intentionally performs what he refers to as his “gay-for-pay” personality that acts more open, playful, and, at times feminine. By drawing on popular depictions that they have seen in the media coupled with representations of masculinity that they presume gay men will enjoy, these creators perform a certain front of male heterosexuality with a hint of homosexuality in order to craft a fantasy for their audience.

Santiago, the person quoted above who preferred attention to money, disclosed to me that he engages in deceptive marketing strategies regarding his sexuality. While he disclosed to me that he identifies as pansexual, meaning he is attracted to people regardless of their gender, he chooses to market himself online as straight because he knows that this identity carries a wider appeal:

> [F]or example, on my Twitter, it says that I'm straight. And I use that as a prop—as a marketing strategy. I mean, gays out there just love the idea of—fantasy of a heterosexual man having sex with other men. It just turns them on and I used it to my advantage and it has worked for me. A lot, a lot.

Because he is, in fact, attracted to men, Santiago is able to experience sexual pleasure in his content while passing it off as a taboo, exploratory act to his subscribers. He felt that gay men would me more interested in seeing a straight man have sex with men than seeing “one of their own," which has largely proven true. Santiago is still a part of this sample of straight men because this is how he advertises himself online, and this marketing strategy highlights the appeal of straight men for gay audiences.

This finding led me to ask my participants what it is about straight identities that seems to appeal to gay audiences so much. Many emphasized the idolization of masculine features like dominance, strength, and muscularity, and saw straight men as an unobtainable ideal. Frank, who creates content for the foot fetish community, elaborated:

> Okay, so the, the whole thing of being straight to them they really like. And some people are very sexually attracted and are turned on to the whole idea of them being beneath a straight person. They like that idea…[a]nother thing I think is that it's one of those things that they want it, but it's like they can't have it, type of thing, yeah so it's, it's that too.

Frank confirmed for me that the forbidden nature of straight/gay relations are a draw for many OnlyFans subscribers. Additionally, as mentioned in the literature review, he described a tense, charged dynamic between straight and gay men because of the power differential between the two groups; not only do gay men find straight male physiques attractive, but also the privileged social positions that they represent.

Boundary maintenance

One way that participants were able to communicate their straight identities was through the clear establishment and maintenance of boundaries. These took many forms, including intentionally limiting direct communication with subscribers and denying requests for certain types of content. Among a handful of participants, I noticed a more tangible, physical boundary—an overwhelming trend of discomfort around anal penetration. Without asking explicitly about this topic, it came up several times in our conversations:

> "I will show my asshole, per se, but I'm not—uh uh—nothing's going in!"
>
> -Peter, 21 year-old straight, white man

> "Um, so a lot of males ask for anal-specific things. So the most I've done is, um, slight finger play. But as far as like any big object insertion, that's, that's not something I'm comfortable doing."
>
> -Magnus, 36 year-old straight, Asian-American man

> "I've tried—I even had like butt plugs before, but I just never could like—I never liked doing, putting stuff up my ass, to be honest."
>
> -Duke, 21 year-old straight, white man

> "No butt stuff for now. [LAUGHS] But you know…it's on my radar."
>
> -Simon, 33 year-old heteroflexible, white man

It is significant that nearly half of my interviewees mentioned anal stimulation without specific prompts or probes on the topic. These quotes tell me that not only is this a firm boundary set by many creators with little to no room for negotiation, but also that there is a sizeable demand among OnlyFans subscribers to see a straight man experience anal penetration. I surmise that this is off-limits for creators because the receptive role of penetration is traditionally labeled as a more feminine (and, in this case, gay) sexual act. In order to maintain their heterosexuality and avoid compromising their masculinity, many straight male creators are not willing to perform such acts.

Another physical boundary I noticed among participants was that of touching other men—if they were comfortable being photographed or recording alongside other men, it was usually under the pretense that they would not be required to perform sexual acts on one another. Recall earlier Simon saying that he doesn't care "what parts" his audience has. He went on to say, "If they were here in front of me, or if they are touching me, that's a little bit different, but being admired from afar, I think, is a wonderful thing that I embrace." Physical distance is an important factor for Simon's comfort with performing for audiences that he is not typically attracted to. In other cases, when performing in threesome films with other men, for example, he only touches them in pursuit of larger (heterosexual) goals: "The type of films I make and the things I do and when I do it—because I have done stuff with other guys before—lightly, I've, you know, touched and things but it's always been with other women around and the focus is almost always on the other ladies."

Similarly, Duke shared, "I'm fine doing nude pictures with guys, but I'm not going to, like, touch." Here we see that some creators' proximity to other men is a determining factor of their comfort—men can be present, in-person or in a virtual audience, but cannot demand too much engagement.

On another hand, Frank discussed an interesting double-standard with me that he said "messes with [his] brain." In the aforementioned "foot worship" meetups, he is comfortable touching these men with his feet because of his compartmentalizing strategies; he treats his feet as separate from his sexuality because he himself is not aroused by feet. The tables would turn, however, if a woman requested these services Frank felt differently:

> …[W]ith a woman, I don't think I could do that. I'm just—because I feel like it's disrespectful. And just, you know, it's just like how I was raised. I just think that's wrong. And I couldn't do that. But, you know, for another male. I was like, you know, I don't really have a problem with it.

Foot fetish aside, this reveals an important sexual boundary for straight men—engagement of any sort with gay men is not seen as real (as that with a woman might be) because the attraction is not mutual. As mentioned earlier this leads me to believe that reciprocity is required for the mediated sexual interactions on OnlyFans to be thought of as legitimate by straight male creators. This also presents an opportunity to mention that straight men's OnlyFans content is almost exclusively created for the gay male gaze; some of my male participants mentioned having occasional female viewers, though they often do not subscribe long-term.

DISCUSSION

Two conflicting narratives about straight male OnlyFans creators have emerged in this research. Most participants seemed to be telling me that their motivation for doing this work is the financial outcome, and they are comfortable enough in their sexualities to perform for a homosexual audience in a way that does not impact their own identities. However, this presentation of something "not that deep" appeared to me as highly strategic and calculated. While they may not have any psychological investment in the work that they do, logistically, they know exactly what they are doing, with the explanations, constructed personas, and boundaries to prove it. Whether they discovered the market for straight male content intentionally or by happenstance, they have caught wind of what works and have embraced it. Because they are simply posting sexual content of themselves online, they technically cannot control who views it or what purposes it is used for. They are not required to engage directly with homosexuality, even if they know that it is the subtext of their popularity.

As I demonstrated throughout the literature review, previous work on the topic of situational homosexuality takes great pains to explain any deviation from heterosexuality (Escoffier 2003; Kahan 2019; Mercer 2012). In that body of research, homosexual acts must be justified and understandable to the outside audience—financial incentive, sexual exploration, or deprivation of heterosexual sex are all acceptable reasons. But what if the act is less clearly understood as homosexual? How do our understandings shift? I am hesitant to refer to straight male OnlyFans creators as gay-for-pay in the same way as in the pornography literature because OnlyFans is a completely different genre of sex work from pornography. While it certainly contains mostly pornographic or sexual content, it is a highly individualized and agentic form of sex work with lower barriers to entry and higher expectations for intimacy. While traditional gay-for-pay pornography forces the viewer to grapple with this contradiction, OnlyFans incorporates the same dynamic but in a less intrusive way, occupying a grey area between these two extremes. A straight man's OnlyFans account is not an inherently gay space, though it may take on that role for gay viewers.

Additionally, due to the coronavirus pandemic, a great majority of OnlyFans content was filmed solo (at the time of this research), meaning that there are not the same physical contact requirements as there are in gay-for-pay porn. A selective awareness of how this content will be interpreted by the gay male gaze dictates their sexual *performances* without altering their personal *desires*. This distance from other men both on-screen and in their audiences allows straight male OnlyFans creators to craft clearly defined identities that are as close to or far from homosexuality as they are comfortable with.

The story about sexuality that this research uncovers is one of continuous definition in an online context. The creator and audience each have their own definitions of what they consider sexual or pleasurable, and, on OnlyFans (as in many other forms of sexual labor), there is no requirement that these definitions overlap. Within the straight male market on OnlyFans, the common understanding of where the demand lies creates a profitable opportunity to any creators who are comfortable enough with their own sexualities to put themselves on display for a wide, mostly gay audience. While I would usually argue for a thorough interrogation of the difference between online and offline behavior (see Welles 2015 and Williams 2010 for a discussion of the "mapping principle"), in this situation it is clear that the dissonance between online self-presentation and offline identity does not need to be resolved or explained—the financial exchanges in this scenario quiet the majority of internal concern and external suspicion. Above all, the participation of both subscribers and creators is voluntary, so either party would cease to participate if they did not experience gratification in some way, be it financial or sexual.

LIMITATIONS

There are several limitations to this research worth noting. Foremost, by nature of my social media recruitment methods and inability to provide compensation for interviews, it was incredibly difficult to get access to participants. Those who were willing to speak with me over Zoom are likely not representative of typical OnlyFans creators because the majority of sex workers (rightfully) wanted to be paid for the labor of an interview, which I was unable to offer. Those willing to speak with me for free are more likely to either be fairly financially successful and not need the extra money, or just starting off and hoping for an outlet to promote and discuss their work. Additionally, while Zoom meetings certainly fulfilled the purpose of allowing me to interview participants that I would not regularly have access to during a pandemic, there are several drawbacks of this medium including inability to read body language and spatial cues (if participants had their cameras turned on), limited opportunities to build rapport, and misunderstanding and lag due to poor connections (Seitz 2016; Lobe, Morgan, and Hoffman 2020).

Furthermore, because this research does not have a comparison group of OnlyFans creators from intersecting identities other than straight men, I am unable to make claims about the novelty of the identity management strategies that participants discussed. Thus, this paper can only focus on what I have learned about this specific population. Future research can and should make even stronger arguments through the use of a comparison group and more strategic sampling.

I feel it is necessary to briefly reflect on my positionality in this research and the influence that my identity may have had on the process of data collection. On March 19th, 2021, I wrote the following in a reflexive memo:

> Several participants have referred to me when speaking about their gay subscriber bases. I, of course, hadn't come out to them formally during our short interviews, but they lumped me in with conversations about gay men…Because of this, it's important to consider how participants see me as a gay man and how that relates to the ways they talk about their audiences, and if they would or wouldn't say certain things because of who I am.

While my identity as a gay man certainly shifted the dynamic with my participants, I consider it to be a strength of this research because they are already comfortable interacting with gay men. This seemed to allow them to open up to me with more ease because they were already used to performing (and sometimes discussing) incredibly vulnerable sexual acts for a similar audience. However, this same reason may also have created hesitancy among some participants who feared saying the wrong thing or offending me in some way.

This research so far sets the stage for future work to further clarify the new meanings of sexuality in the context of online sex work on OnlyFans. As this platform continues to grow in popularity and profitability, it will be important to observe how these dynamics evolve. Many of my participants cited OnlyFans as a short-term plan to make as much money as possible before leaving the platform to pursue other goals. As the United States continues to censor and regulate sexual content online, sex work platforms of all kinds are at risk of collapsing and creators are fully aware of this precarity. For example, in August of 2021, OnlyFans announced that it would be banning explicit content from its site, only to reverse their decision about a week later, following widespread backlash from the sex workers that populate the majority of its accounts. Further work should take these dangers into account and also explore the alternative platforms currently being used and developed, some of which are mentioned in the introduction of this paper.

CONCLUSION

Because straight men have traditionally held the majority of privilege, space, and power in society, it is important to study them in the environment of OnlyFans, where they are minoritized among other creators and must commodify themselves in a way they aren't usually required to. They have the freedom to call on and incorporate homosexual aesthetics and behaviors whenever it is culturally, interpersonally, or financially advantageous to do so, while retaining their heterosexual identities as a safe retreat. Thus, straight male OnlyFans creators are able to carry the technical label of "gay-for-pay" if they so choose while remaining physically and emotionally removed from situational homosexuality. They retain the status and privilege associated with heterosexual masculinity, even if they let gay men peek behind the (shower) curtain for a monthly fee.

Also, because anyone with a camera, Internet access, and a bank account can create an OnlyFans page, this new genre of sexual labor does not have any of the gatekeepers that previously limited participation in the traditional, studio-produced pornography that legitimized gay-for-pay. While this sexual behavior may not be situationally *homosexual*, it is still situational. In the words of Escoffier (2003), "All sexual performance is fundamentally situational and does not always result in long-lasting social psychological commitment to any one form of sexual activity." The natures of pornography and online sex work force a situationality on all performers by the very presence a camera and an imagined audience (Mercer 2012; Escoffier 2003). Thus, OnlyFans exists in a grey area between homophobia and utopia, where creators can perform sexual personas curated for their specific audience, which requires varying levels of imagination on both fronts.

This work contributes to the vast literature on both online sex work and male sex work more broadly by highlighting the core animating forces of money and affirmation for doing this work, no matter the audience. To maintain their heterosexuality, the men I interviewed constructed clear boundaries by openly communicating their sexual identities, as well as the acts and services that they are and are not willing to perform. Much of this work reifies traditional, masculine values that emphasize authority and conceal vulnerability, but the mere fact of participants' engagement with online sex work cracked the mold in significant ways. By putting their likenesses for sale on OnlyFans and emphasizing personas that they know will please their gay audiences, these men embody amorphous sexualities that appear differently depending on the eyes of the beholder. The gay male gaze acts as a powerful force that can influence the self-presentations of straight male sex workers, but their straight identities prove flexible yet resilient when there is profit to be made.

ACKNOWLEDGEMENTS

The author does not have any conflicts of interest to disclose. He expresses gratitude to Dr. Judith Levine and Dr. Dustin Kidd for their help with the development of this article, as well as the editor and anonymous reviewers of *Sociological Viewpoints*. Finally, this work would not be possible without the time and expertise donated by the generous participants featured within.

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BIOGRAPHY

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BOOK REVIEW: *Figures of the Future: Latino Civil Rights and the Politics of Demographic Change*

By Michael Rodríguez-Muñiz

Reviewed by Makaylah D. Bangura, Nicholas J. Rowland, Marianna K. Di Balsamo, Mary Farag, Mykala L. McGill, Nathan E. Kruis

Few recent books so plainly illustrate the seemingly permanent relevance of the sociological imagination as Michael Rodríguez-Muñiz's (2021) *Figures of the Future: Latino Civil Rights and the Politics of Demographic Change*. Through self-reflection, participant observation, in-depth interviews, and the analysis of primary materials, Rodríguez-Muñiz crafts a conscientious, sociologically informed narrative that is approachable yet critical, and that engages while challenging the reader. "The central argument of this book," Rodríguez-Muñiz (2021: 26) summarizes, is "that the so-called browning of America owes more to politico-cultural dynamics than to the complexion of emergent populations." The author provides readers with an intricate, multi-faceted view into population politics as they apply – and are applied to – Latino civil rights activists and the broader populations they advocate for. And the author jumps right in. In the preface, Rodríguez-Muñiz begins the book reflecting on the author's earliest experiences wielding demographic information with the tactical intention of social change. A core gift of this book is in sensitizing readers to a truly novel interpretation of the intersection between temporality and demography, demonstrating how demographic realities shape and are shaped by their cultural, social, and political milieu. The author traces civil rights and the use of demographic data through several US presidencies, ending the book with the Trump administration's 2016 victory at the polls. By the concluding remarks, the reader is dutifully equipped to see, in all their multiform nuance, the politics of framing demographic data, the temporal dimensions of population politics, and the unintentional tendency among activists and academics to naturalize our talk and thought about demography.

Beyond these analytical and empirical triumphs, the book is a page-turner, which, we admit, was somewhat unexpected for a book foremost about demography. Also, please note that we reviewed this book as a team of undergraduate students working with faculty, and we have concluded that upper-level college students interested in demography, race, politics, and social movements are all well-served by this text as would be graduate-level readers and faculty members. In what follows, we position this book in Rodríguez-Muñiz's broader writing, discuss the author's uncanny ability to blend narrative with number, reflect on the significant authorial decision to anchor the text in the ethoracial label "Latino," and then end with a few concluding

Sociological Viewpoints
Volume 36, Issue 1, 101-106

ISSN: 1060-0876/doi:10.26908/3612022_017

remarks.

Readers familiar with Rodríguez-Muñiz's past sociological research on Latino civil rights advocacy, positioned at the intersection of demography (e.g., 2020), race (e.g., 2019), the state (e.g., 2017), and science and technology studies (e.g., 2016), will get similar themes consolidated and pushed in new, productive directions in *Figures of the Future*. The most notable – and laudable – advance by the author is the integration of the sociology of the future and futures studies literature into this previous line of research. While demographic talk about the future is ubiquitous, Rodríguez-Muñiz's perspective is noteworthy and unique. The feeling of following the actors without getting bogged-down in jargon appears to be the author's signature style. Each chapter unfolds like the next room in a Latino civil rights museum with Rodríguez-Muñiz as their dedicated, resident docent. The author gives readers a behind-the-scenes view into significant summits, conferences, and conventions of Latino rights activists over roughly the past half-century with special emphasis on the 2010 and 2020 censuses that have formulated, shaped, and refined political discourse on members of the Latino population. Rodríguez-Muñiz (2021: 83) seamlessly blends narrative together with number in this demographic text sharing memorable statements about the growing Latino population such as, "I am 1 out of 4 babies born each year" and "I will account for 95% of the TEEN population growth THROUGH 2020," which are claims cleverly framed and woven into the fabric of conventional political marketing tools. Perhaps foreign to some readers, these carefully packaged claims serve as an interesting and welcomed gift in the broader conversation on demographic politics. The author goes on, further solidifying and embedding this message into the fabric of sociology's history, reminding readers, reminiscent of W.E.B. DuBois' unforgettable insight on "twoness," that "the Latino population is bilingual and bicultural, at once and wholly Latino and wholly American" (p. 84).

With a balanced, reflexive tone, Rodríguez-Muñiz (2021) walks the reader through the choice, as an academic and an activist, to anchor the text in the ethnoracial label "Latino," per the subtitle of the book, *Latino Civil Rights and the Politics of Demographic Change*. The reader gets a glimpse into the kind of teacher Rodríguez-Muñiz must be. The author does not tell the reader *what* to think about the ultimate decision to go with "Latino," but *how* to understand it, precisely *what* is at stake when choosing between ethnoracial labels, and that any author of a book relevant to contemporary discourse on race must make challenging choices, many of which have no easy, simple, or obvious answer. The author treats such labels as "live" concepts that change over time and that are socially constructed and contested and not natural or given. "The fact remains that appeals to and articulations of Latinidad (or Latino-ness)—as with other ethnoracial categories—do not arise out of nowhere," Rodríguez-Muñiz (2021: xvii) writes, for they "stem from, and are marked by, complex, shifting, and stratified colonial relations that have systematically centered particular raced, gendered, classed, and sexual experiences and systematically marginalized others." In a form of self-exemplary reflexivity, "I wondered," Rodríguez-Muñiz (2021: xvi) asks the reader as well as himself, how "heterogeneous Latin American-origin groups come to be imagined—and to some extent imagine themselves—as part of a "panethnic" whole?"

The author owns the decision, fully and unambiguously, to anchor the book with the ethnoracial label that was used by the civil rights organizations that Rodríguez-Muñiz participated within and observed firsthand. "No decision can fully appreciate and acknowledge the complexity of these labels and their contingent relations to peoples and projects," Rodríguez-Muñiz (2021: 26-27) acknowledges; the author has "chosen to primarily use the now somewhat archaic "Latino,"" and admits, leaving room open for criticism, that this "choice might influence how the book is received and what assumptions are made about it." "Perhaps this is unavoidable," and, with all things considered, it was "important for me," Rodríguez-Muñiz (2021: 27) shares, to remain "close to the labels and categories used by national Latino civil rights organizations." To embrace, and to not avoid, this significant authorial decision, and to share the personal and professional complexity of the choice with the reader, was a special moment in the book.

As a brief aside, our only real complaint about the book was that there was not enough of it– that individual chapters could have gone into greater depth at greater length and that we, as readers, would have been dutifully satisfied by that. We did have a minor complaint, too, which is relevant to the book's title: for readers that had not yet happened upon the sociology of the future or futures studies more broadly, the meaning of the title *Figures of the Future* was not at all obvious when first seeing the text on the bookshelf. Once you get into the book, of course, the title seems progressively more and more obvious. That said, we raise this point not merely because it is an interesting quality of the book's title, but because the same feeling extends throughout the text as a whole. Even though the author lays out exactly what to expect in the book from the outset, the chapters are still vibrant and emergent and full of life. The author's insights, especially the author's application of foresight, foreshadowing, and forewarning to describe the use of demographic information by Latino activists, build upon one another like scaffolding, deepening the reader's understanding and appreciation of the activists' tactics, and making the eventual implications of such tactics progressively more obvious to the reader – just like the title.

A closing remark, which we, as undergraduate co-authors, would be remiss not to acknowledge, is for instructors. If you are considering this text as required or recommended reading, then you should be reassured that Rodríguez-Muñiz provides plentiful background for readers. This is significant because as current undergraduates, some of us were not yet born or were not yet invested in politics enough to understand what was happening in Latino activism or American government during the book's relevant time period. In our opinion, what makes Rodríguez-Muñiz's book special, and, thus, the big payoff for advanced undergraduates exploring this text, is the author's ability to blend core sociology that students will be familiar with (e.g., sociology of race, political sociology, and research on social movements and social change) with other aspects of the discipline that otherwise get short shrift in introductory and even some advanced texts (e.g., demography, science and technology studies, and, surely, the sociology of the future). This is good reading for students, without doubt, but creates a significant challenge for instructors who, themselves, may not particularly familiar with demography or may not yet have happened upon the microcosms of science and technology studies or the sociology of the future. Still, for close readers, this is a moot point because

Rodríguez-Muñiz has extensive and exemplary endnotes. Any question or curiosity voiced by a student is easy enough to follow-up on by referencing the near-encyclopedic references amassed by the author – as a research team working on this review, we did. So, in closing, if our rich and abundant discussion while reading this text is any indication of the rewarding exchanges faculty should expect to have with students, then you will find this book very satisfying, first, empirically and substantively, and then, stylistically and pedagogically.

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