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Proceedings of GREAT Day
SUNY Geneseo

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The Proceedings of GREAT Day
2017

SUNY Geneseo
Geneseo, NY

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About GREAT Day and *The Proceedings of GREAT Day*

Geneseo Recognizing Excellence, Achievement, & Talent is a college-wide symposium celebrating the creative and scholarly endeavors of our students. In addition to recognizing the achievements of our students, the purpose of GREAT Day is to help foster academic excellence, encourage professional development, and build connections within the community.

Established in 2009, *The Proceedings of GREAT Day* journal compiles and publishes promising student work presented at SUNY Geneseo's GREAT Day symposium. The projects, presentations, and research included here represent the academic rigor, multidisciplinary study, and creativity of the students taking part in the SUNY Geneseo GREAT Day symposium.

Editors: Marley DeRosia, Geneseo Class of 2018

Isabel Keane, Geneseo Class of 2019

Publishing Supervisor: Daniel Ross, Head of Access Services, Milne Library

Editorial Consultant: Sheryl Larson-Rhodes, First-Year Experience Librarian, Milne Library

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The Proceedings of GREAT Day 2017

An Interview with Provost Stacey Robertson

Marley DeRosia

I had the pleasure of interviewing SUNY Geneseo's new provost and vice president of academic affairs, Stacey Robertson, on February 28, 2018. She assumed her role in June of 2017 and I was excited to pick the brain of someone who had never experienced Geneseo's annual research event. I initially asked to interview Provost Robertson through email, and she replied with great enthusiasm at the opportunity despite never having attended GREAT Day before. When we sat in her office, the bowl of mixed M&M's placed in front of me broke the ice. A few shared laughs later, I began to ask her my questions.

What are you looking forward to this upcoming GREAT Day?

Provost Robertson: Student creativity and innovation, my friend! I am looking forward to experiencing first-hand what our students are doing in relation to all these amazing research programs I've heard so much about. It's amazing; I feel like the best thing we can do for our students is provide them with opportunities to take what they learned inside the classroom and apply it outside the classroom. It is the strongest correlation with student success in college; it's the ability for us to provide our students the opportunity to do that and GREAT Day is the ultimate manifestation of taking what you've learned inside the classroom and applying it outside the classroom. I'm just really eager, in particular, I'm very interested in creativity and innovation.

How important do you think student research is to campus?

Critical. It's absolutely critical. And I assume by research you're defining it broadly, so it's not just the sciences! What we do at an institution like Geneseo, we don't just say, "Hey, learn about European history and you get to go off and teach history in high school," right? That is so not what we do! First of all, we teach you how to learn, so you become a lifelong learner and develop all of those incredibly important skills which allow you to make choices in your life with power, with knowledge, with information, and with confidence. That is what we do for you and that is what research does for you; it enhances your own independent, creative critical thinking, it enhances your leadership, it enhances your confidence level. Because you're engaging in the research! You are the one applying that knowledge base that you got from that biology course or your history course, your English course, or your accounting course and you're putting that in action. You are being an historian! You're being a biologist! That is so empowering in so many different ways. It's priceless, frankly. If we're not doing that, we're not doing our job. Research is critical to who we are as an institution. Frankly, we have the very best faculty, the very best staff to help our students do that. I mean, within the last few weeks, our geography department won best geography department in the nation. Our library? Best library in the nation. These are not minor awards and they're deeply linked with our ability to conduct and provide research opportunities for our students.

Have you seen similar undergraduate research symposiums like GREAT Day in your professional career?

I've been at two previous institutions as a historian at Bradley University where I spent 21 years as a U.S Women's Historian and also as the director of the Women's Studies program. There, Bradley also has a GREAT Day type of event and they've had it for 20 years, but I'm telling you right now, it was nowhere near [that of GREAT Day]. First of all, we never canceled classes. Second of all, it maybe got 10% of student

participation, not 25% like we have here—it's amazing! So totally not, in terms of participation. I mean, it was transformative for our students but not as many people participated. Same thing at Central Washington University. They also had—in their case it was a day and a half—but again, classes were not canceled. It was not an institutional event the way that it is at Geneseo. I think the fact that we cancel classes is very unique and very Geneseo. So yeah, both of those two institutions did have it but it just was not what it is here.

Did you do any undergraduate research yourself? Did you have the opportunity to present it in a similar setting?

As an undergraduate, I went to a small liberal arts college, Whittier College, which is in Whittier California in the Los Angeles area. I was very fortunate in that there was a program there which is called the Whittier Scholars Program, which is basically a kind of “design your own major” program. This was a program in which your first class that you took as a Whittier Scholar student was called “What are human beings?” That was one of the best classes I ever took in my life. The last class you took as a senior was called “What is reality?” So your education is bookended by “What are human beings?” and “What is reality?” and how awesome is that? They required us to have a senior project and that senior project could be of your own choosing related to your created major or not, whatever you wanted, and in the end, I actually had a very interesting experience.

Originally, I was very interested in women and art. Although I was not an art major, I wanted to do a project with a women's center, which was a women's art collective in downtown Los Angeles where I was just going to go experience and write about that women's center. There were structural issues that made it really hard for me to follow up on that project so I ended up changing my project and deciding to do a historian's project. I had an advisor that said, “Hey, you know Stacey, there's a collection of letters in the library. They're housed in a Nike shoebox. You might want to take a look at those. It's really cool, they're called the Pillsbury family letters and you're interested in family history so go check them out.” Well, I went and checked it out: I fell in love with this family, in particular, Parker Pillsbury, who was the husband in this family. Turns out he was a very famous abolitionist—nobody had ever written on him. He became my senior project. He became my dissertation. And he became my first book.

Did you have the opportunity to present it in a GREAT Day-like setting?

In the Whittier Scholars Program, we had a tradition of having a seniors' night and so all of us would present our projects at a big formal dinner that we had. It was a great opportunity to engage in public dissemination of your scholarship, much like what we do at GREAT Day, so I learned a lot from that, but it was nothing like GREAT Day, I mean, there were 25 of us presenting and it's just a much smaller environment so it's nothing like what happens here but it was inspiring for me. So, for me, GREAT Day is the ultimate manifestation of that opportunity to share your intellectual work in a public forum which allows you to develop all kinds of skills: oral communication skills, problem-solving skills, critical thinking skills, leadership skills, terrific things all in one day.

How do you think GREAT Day fosters creativity on the college campus?

You know, the whole thing about research is that no one is telling you what to do. I mean, research projects are, by their very nature, an exemplar of your independent thinking. It's problem solving even if it's a poetry reading or something more traditionally “creative.” It's about creative, intellectual problem solving at its very best. It encourages students to think outside the box. It encourages you to think about yourself in relation to the world in new and interesting ways. I think one of the things we worry about in our education is the extent to which we are able to provide our students with the skills that will outlast what the latest technological revolution is that will foresee careers of the future. But here's what I say: if we teach students, if we allow opportunities for our students to hone their creativity skills, that can never be replaced. That can never be mechanized. It's never going to go out of fashion. If you think about technology and the things that we worry



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about—Apple is all about creativity. We cannot divorce the mechanics of design from the creativity of design; they have to be in conversation. Our students in learning how to be creative through their own hands, in their own thinking, in their own engagement with other students and with faculty, those are the priceless skills they're going to remember. They're going to remember their GREAT Day project. In 10, 20 years, they're not going to remember the one little class—they'll forget a lot of things. But they're always going to remember their GREAT Day project. They will. Creativity is at the heart of it all.



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An Interview with Caroline O'Brien

Hometown:

Stony Brook, NY

Major:

Psychology, Human Development minor

What have you been up to since graduating from Geneseo?

I'm currently working as a behavior specialist for adults with developmental and intellectual disabilities. I'm also in the process of applying to graduate school for social psychology.

Why do you feel that GREAT Day is important?

GREAT Day provides students with a unique opportunity to present various kinds of research in a professional setting. Students can also explore their own interests and support their peers by learning about the amazing things other students are doing around campus.

What was your experience presenting your work at GREAT Day?

I greatly value my experiences presenting during GREAT Days throughout my college career. I was able to practice communicating my research to others in preparation for professional conferences in my field.

Perceptions of Unintended Adolescent Pregnancy: Associations with College Students' Neoliberal Beliefs and Type of Contraceptive Problem

Caroline O'Brien & Jennifer Katz

ABSTRACT

The purpose of this study was to explore perceptions of unintended adolescent pregnancy as associated with level of neoliberal beliefs and types of contraceptive problem. Northeastern U.S. undergraduate college students ($N = 72$) completed a measure of neoliberal beliefs and were randomly assigned to read about a couple who became pregnant after contraceptive non-adherence or a contraceptive accident. As expected, observers with greater neoliberal beliefs perceived an unintended adolescent pregnancy as more controllable than those with lesser neoliberal beliefs. Additionally, a pregnancy following a contraceptive accident was perceived as less controllable and elicited more sympathy than a pregnancy following contraceptive non-adherence. These findings suggest perceptions of unintended adolescent pregnancy are both context-dependent and related to the observer's level of neoliberal beliefs. This knowledge can be applied to promote the wellbeing of pregnant and parenting adolescents in social service, clinical, and school settings through increased awareness and improved attitudes toward these individuals.

Adolescent pregnancy is common, particularly in the United States (U.S.). More specifically, the birth rate for teenagers aged 15-19 was 24.2 births per 1,000 females in 2014 (Hamilton, Martin, Osterman, Curtin, & Mathews, 2015). Adolescents from the U.S. are more likely to give birth than adolescents from multiple other countries; U.S. teens are two and a half times as likely as teens in Canada, around four times as likely as teens in Germany or Norway, and almost 10 times as likely as teens in Switzerland (Kearney & Levine, 2012). Similarly, across 21 countries, the U.S. has the highest rate of pregnancy among 15-19 year olds and Switzerland had the lowest (Sedgh, Finer, Bankole, Eilers, & Singh, 2014). Common correlations of adolescent pregnancy include race, socioeconomic status, and family structure. In 2014, those who identified as Hispanic or Black in the U.S. had the highest rate of births among teenagers who were 15-19 year olds, whereas those who identified as Asian or Pacific Islander had the lowest (Hamilton et al., 2015). Additionally, girls who grow up in poverty, or in a single-parent household were found

to be about two times as likely to have a teen birth as those who do not (Kearney & Levine, 2012). Importantly, most teen births are reported as unintended by the mother (Kearney & Levine, 2012). In 2011, of 6.1 million pregnancies in the U.S., 45% were unintended (Finer & Zolna, 2016). Because adolescent pregnancy is especially prevalent in the U.S. and is often unintended, it's important to examine perceptions related to unintended adolescent pregnancy.

Pregnant and parenting adolescents in U.S. and similar cultures are often stigmatized. Stigmatization is the process of individuals or groups being labeled as different because they deviate from the social norm (Goffman, 1963). Teen mothers are particularly susceptible to stigma, commonly because of their age, as well as their class and race (SmithBattle, 2013). In a study by Wiemann, Rickert, Berenson and Volk (2005), 39.1% of pregnant adolescents reported feeling stigmatized by their pregnancy. They found feeling stigmatized was positively associated with White race/ethnicity, not being married or engaged to the



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baby's father, feelings of social isolation, aspirations to finish college, experiencing verbal abuse or being fearful of being hurt by other adolescents, and experiencing family criticism (Wiemann et al., 2005). In contrast, they also found that greater self-esteem and having dropped out of school before getting pregnant were negatively associated with feeling stigmatized (Wiemann et al., 2005). It has also been found that when pregnant teens feel stigmatized, they are more likely to delay prenatal care due to feelings of shame and embarrassment (Atuyambe, Mirembe, Annika, Kirumira, & Faxelid, 2009). According to Whitehead (2011), the degree of stigma that pregnant teens report experiencing is influenced by how greatly their pregnancy deviates from social norms. The most common experiences of stigma identified by teenage mothers are media reports and strangers who stare or verbally criticize them publicly (Gregson, 2009, as cited in SmithBattle, 2013). Teen mothers also identify teachers treating them differently and mandates to participate in intervention programs as disparaging (Gregson, 2009, as cited in SmithBattle, 2013). Some teens have also reported that, whereas some social service and school staff are supportive, others subject teens to rude behavior, heavy scrutiny, and mistreatment (Silver, 2008). The effects of stigma may create additional stressors for these young mothers to manage, and thus studies are needed to identify factors related to observers' stigmatizing perceptions.

Studies of how college students in the U.S. perceive pregnant and parenting adolescent girls have often shown mixed results. On the one hand, empathy has consistently been associated with positive attitudes across studies. Eshbaugh (2011) and Kim, Burke, Sloane and Barnett (2013) both reported that higher levels of empathy were a predictor of positive attitudes toward teen mothers. On the other hand, there have been discrepancies with regard to both relationships with teen mothers and age correlates of positive attitudes. Kim et al. (2013) and Weed and Nicholson (2015) both found that having a family member or friend who was a teen mother predicted positive attitudes toward teen mothers generally, whereas Eshbaugh (2011) found that not having a family member who was a teen mother predicted positive attitudes. Age correlates of positive attitudes have also been inconsistent across studies; Weed and Nicholson (2015) identified freshmen as having

the most positive attitudes, while Eshbaugh (2011) found that juniors had the most positive attitudes and finally, Kim et al. (2013) found that seniors had the most positive attitudes. The mixed results from these studies suggest the need for further research to establish a better understanding in correlations of attitudes toward pregnant and parenting teens.

One individual characteristic that may be associated with perceptions of pregnant and parenting adolescents is level of neoliberal beliefs. Neoliberalism commonly refers to economic and social policies based on the principle of self-interested systems competing for opportunities and success on the same, level playing field (Bay-Cheng, Fitz, Alizaga, & Tucker, 2015). According to a neoliberal perspective that if all systems act on this same, level playing field—all consequences are deserved, whether they be rewards or losses (Bay-Cheng et al., 2015). Although this ideology has typically been applied to economic and social policies, researchers have determined that neoliberalism is also represented in individual attitudes, behaviors, and perceptions (Bay-Cheng et al., 2015), including individual beliefs about gender and sexuality. Bay-Cheng et al. (2015) found that participants who held strong neoliberal beliefs were more likely to hold victim-blaming positions about rape and have doubts regarding the existence and salience of sexism. This connection has been illustrated in various research endeavors. Bay-Cheng (2015) discussed how girls in the U.S. are judged based on adherence to neoliberal script of sexual agency. Additionally, Katz and Ostrout (in press) found that in cases of potential sexual assault, level of willingness to help was related to observers' level of neoliberal beliefs, as more neoliberal beliefs predicted more victim blame and subsequently less willingness to help. Neoliberalism may be helpful in understanding perceptions of unintended adolescent pregnancy, as it has been useful in understanding other phenomena related to sexuality.

Weiner's (1993) attribution theory may help explain perceptions of unintended adolescent pregnancy caused by different types of contraceptive problems that vary in how controllable they are. According to Weiner, control refers to the degree to which a person can willfully alter an event or outcome. Weiner argues that amount of controllability determines the levels of blame/responsibility assigned to a person for



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an event or outcome. Blame or responsibility, which can be defined as an inference about a person's role as culpable in a failure event or other negative outcome due to lack of effort (Weiner, 1993), predicts feelings toward the person involved with the event or outcome. Higher blame/responsibility promotes feelings of anger, whereas lower blame/responsibility promotes feelings of sympathy, an emotional response in which an observer takes another person's perspective and feels concern because what that person is going through (Irwin, McGrimmon, & Simpson, 2008). Thus, less controllable events yield less blame/responsibility, which in turn fosters greater sympathy. This model may be helpful in explaining perceptions of unintended adolescent pregnancy.

Weiner's (1993) attribution theory has been applied to understand perceptions of members of other stigmatized groups, including individuals who are single by choice (Slonim, Gur-Yaish & Katz, 2015), victims of sexual coercion (Katz, Moore & Tkachuk, 2007), those living in poverty (Osborne & Weiner, 2015), victims of acquaintance rape (Abrams, Viki, Masser & Bohner, 2003), and those diagnosed with AIDS (Zhang, Rivkin & An, 2013). For example, Zhang et al. (2013) found the observers' perceptions of controllability of the AIDS diagnosis contributed to judgments of responsibility, less positive affect (including less loving concern or sympathy toward the patient), and less desire to personally interact with the patient. Attribution theory has been helpful in understanding perceptions of other stigmatized groups, it may also be helpful in understanding perceptions of pregnant adolescents.

Different types of contraceptive problems may lead to unintended adolescent pregnancy. One problem is contraceptive non-adherence. In a study by Manlove, Ryan, and Franzetta (2003), 16% of adolescents reported using contraception inconsistently in their first sexual relationship and 21% reported never using it. Additionally, Tyler et al. (2014) found that the prevalence of dual method use is low among adolescents and young women, with only 20.7% of adolescents and young women using dual methods. This implies that contraceptive non-adherence is occurring among adolescents in considerable proportions. Another type of problem is contraceptive accidents or failures. One study found that 12.4% of all episodes of contraceptive use ended with a failure

within 12 months after initiation of use (Kost, Singh, Vaughan, Trussell, & Bankole, 2008). Another study found that 54% of pregnancies among high school students specifically was a result of contraceptive failure, whereas the other 46% of pregnancies were attributed to failure to use a method (Santelli, Morrow, Anderson, & Duberstein, 2006). Because there are different types of contraceptive problems that lead to unintended adolescent pregnancy, Weiner's attribution theory and Neoliberalism may be helpful in understanding how people perceive these different occurrences.

Firstly, the current study examined whether, as scholars suggest (Bay-Cheng, 2015), neoliberal beliefs predict stigmatizing judgments of an unintentionally pregnant girl. Based on neoliberal ideology, which asserts that individuals are expected to exert control over their surrounding environments and deserve whatever consequences occur (Bay-Cheng, 2015), our first two hypotheses were developed. Compared to those who less strongly hold neoliberal beliefs, observers who more strongly hold neoliberal beliefs would perceive an adolescent pregnancy as more controllable (Hypothesis 1a). Secondly, observers with greater neoliberal beliefs would have less sympathy for an unintentionally pregnant adolescent (Hypothesis 1b).

Secondly, the current study also examined the degree to which apparent control over pregnancy, based on Weiner's (1993) theory, also predicts stigmatizing judgments, as prior research suggests it does for other stigmatized groups, such as those who are single by choice (Slonim et al., 2015). It was expected that participants would have less stigmatizing reactions to an adolescent who became pregnant following a contraceptive accident than an adolescent who became pregnant following a contraceptive non-adherence because in the latter condition the adolescent does not even try to avoid pregnancy. More specifically, it was expected that a person who experiences an accident would be seen as having less control (Hypothesis 2a) and therefore, be more deserving of sympathy (Hypothesis 2b) than someone who experienced an event that was not accidental.

Finally, the current study examined the degree to which level of neoliberal beliefs influences how controllability is perceived across different contracep-



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tive problems, as neoliberal ideology asserts that individuals are expected to be in control over their lives regardless of life circumstances or contexts (Bay-Cheng, 2015). It was expected that perceived controllability of pregnancy across non-adherence and accident conditions would vary as a function of level of neoliberal beliefs (Hypothesis 3). That is, among those lower in neoliberal beliefs, a contraceptive accident would be seen as less controllable than a contraceptive non-adherence. In contrast, among those high in neoliberal beliefs, a contraceptive accident would not necessarily be seen as less controllable than non-adherence.

METHOD

Participants

Undergraduate students ($N = 72$) from a public college in the Northeastern U.S. participated in the present study. Most participants were women (84.7%, $n = 61$) and self-identified as white/European American (76.4%, $n = 55$). On average, participants were 19.14 years old ($SD = 1.42$, 18 to 27). A majority of the participants were freshmen (59.7%, $n = 43$). When asked to categorize political affiliation, the modal response was Democrat (45.8%, $n = 33$).

Manipulation

Participants read a short (five sentence) scenario about an adolescent couple, Lauren and James. They are described as 17 years old, in love and together for about a year. In the contraceptive non-adherence condition, the two of them agree that they don't want to use a condom, and Lauren gets unintentionally pregnant after unprotected sex. In the contraceptive accident condition, the two of them agree they do want to use a condom, and Lauren gets unintentionally pregnant after the condom accidentally breaks during sex.

Design

A 2 (observers' level of neoliberal beliefs; higher or lower), not manipulated, \times 2 (type of contraceptive problem; non-adherence or accident), manipulated, between-subjects design was used. Perceived controllability of the pregnancy and feelings of sympathy were the dependent variables.

Measures

Neoliberal beliefs were assessed with the Neoliberal Beliefs Inventory (NBI; Bay-Cheng, Fitz, Alizaga, & Zucker, 2015), a 25-item measure of attitudes reflecting a view of society as meritocratic, post-racial, and post-feminist in which individuals win or lose based on their own personal strengths or weaknesses. A representative item is, "Anybody can get ahead in the world if they learn to play the game." Participants rated their levels of agreement with each item on a five-point scale (1 = *strongly disagree*, 5 = *strongly agree*). Individual responses were averaged so higher scores reflect greater agreement with neoliberal ideas. In the present sample, the estimate of internal consistency was good ($\alpha = .94$).

Perceived control over pregnancy was assessed with a three item self-report measure adapted from Katz, Moore, and Tkachuk (2007). Specific items were, "She had a lot of control over whether she got pregnant," "She had a lot of control over the use of contraception," and "She probably could have prevented this pregnancy." Participants rated each item on a seven-point scale (1 = *strongly disagree*, 7 = *strongly agree*). Individual responses were averaged so higher scores could reflect greater control. In the present sample, the estimate of internal consistency was acceptable ($\alpha = .81$).

Feelings of sympathy were assessed with a two-item self-report measure adapted from Osbourne and Weiner (2015). Specific items were, "I feel sympathy for the girl" and "I feel sorry for the girl." Participants rated each item on a seven-point scale (1 = *strongly disagree*, 7 = *strongly agree*). Scores were averaged such that higher scores reflected greater perceived sympathy. In the present sample, the estimate of internal consistency was acceptable ($\alpha = .80$).

Procedure

Undergraduate students were recruited from a voluntary psychology department pool for a study of *Attitudes and Perceptions about Unintended Pregnancy*. Data collection sessions were held in campus classrooms and lasted no more than 1 hr. Participants sat in alternating rows to ensure privacy. After providing informed consent, each participant responded to questions assessing level of neoliberal beliefs. Then, each participant was randomly assigned to read



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about one of two situations in which a heterosexual adolescent couple engages in sex. In one condition, the couple did not use a condom (contraceptive non-adherence); in the other condition, the couple used a condom that broke (contraceptive accident). Self-report measures assessed participants' perceptions of the situation. Participants were compensated with course credit, and a full written debriefing was provided. The campus Institutional Review Board approved all study procedures.

Results

Exactly 50% ($n = 36$) of the sample was randomly assigned to the contraceptive non-adherence condition, whereas the other half ($n = 36$) was randomly assigned to the contraceptive accident condition. Across both conditions, level of neoliberal beliefs ($M = 2.81$, $SD = .73$, 1.48 to 4.36) was moderate. Across conditions, both perceived control over becoming pregnant ($M = 5.04$, $SD = 1.83$, 1.33 to 7.00) and level of sympathy for the unintentionally pregnant adolescent ($M = 4.99$, $SD = 1.85$, 1 to 7) were moderately high.

Three study hypotheses were tested using a 2 (neoliberal beliefs) x 2 (contraceptive problem) analysis of

variance (ANOVA) with perceived control as the dependent variable. To create groups of participants higher and lower in neoliberal beliefs, the sample was split at the median. Hypothesis 1a was supported, as there was a significant main effect of level of neoliberal beliefs on perceived control, $F(1, 68) = 5.38$, $p < .05$; level of neoliberal beliefs was positively associated with perceived control of an adolescent pregnancy. Means are shown in Figure 1. Hypothesis 2a was also supported, as there was a significant main effect of type of contraceptive problem on perceived control, $F(1, 68) = 52.07$, $p \leq .001$; perceptions of pregnancy controllability were significantly reduced in the contraceptive accident condition compared to the non-adherence condition. Means are reported in Figure 2. Hypothesis 3 was not supported, as there was no significant interaction between type of contraceptive problem and level of neoliberal beliefs on perceived control, $F(1, 68) < 1$, ns ; there was no significant difference in perceived control of different contraceptive problems leading up to an adolescent pregnancy between levels of neoliberal beliefs.

The remaining study hypotheses were tested using a 2 (neoliberal beliefs) x 2 (contraceptive problem) ANOVA with sympathy as the dependent variable.

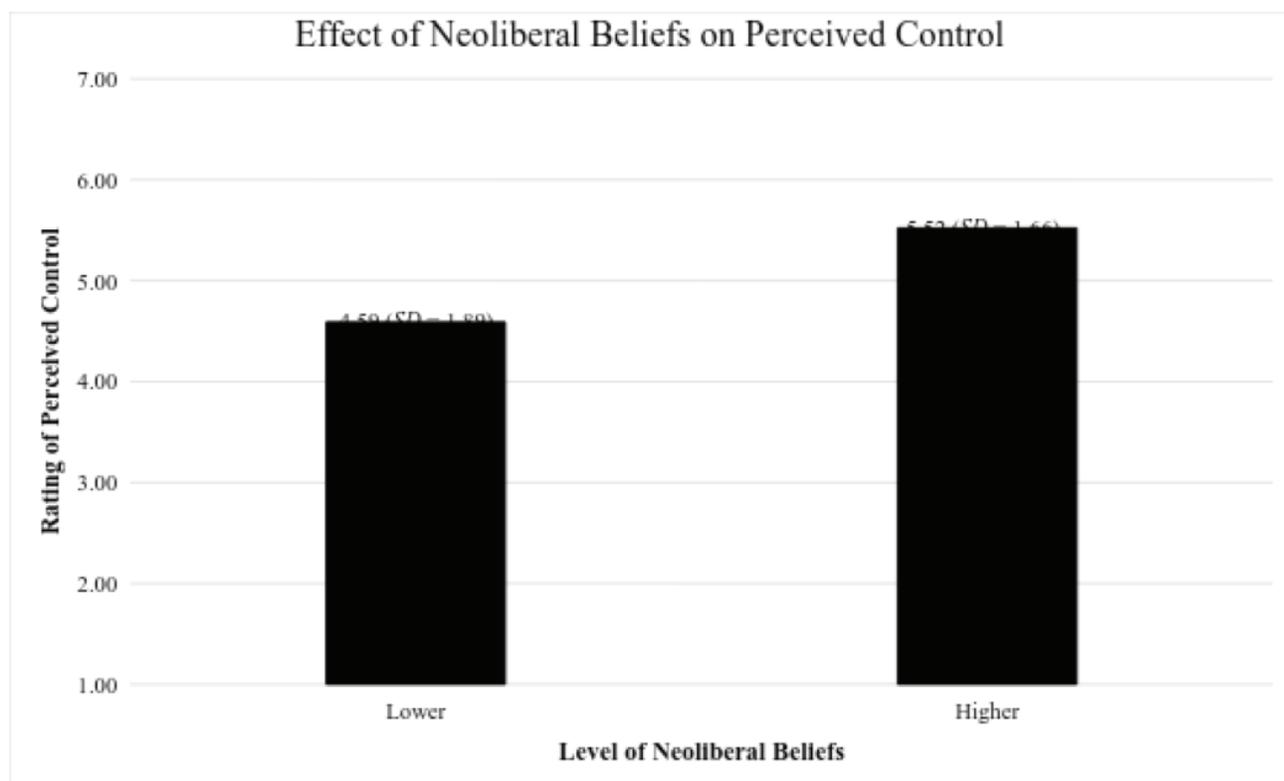


Figure 1. Effect of Neoliberal Beliefs on Perceptions of an Adolescent's Control over an Unintentional Pregnancy ($N = 72$)



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Hypothesis 1b was not supported, as there was no significant main effect of level of neoliberal beliefs on feelings of sympathy, $F(1, 68) < 1$, *ns*; unexpectedly, there was no significant difference in sympathy for an unintentionally pregnant girl between observers with greater neoliberal beliefs than those with lesser neoliberal beliefs. In contrast, hypothesis 2b was supported, as there was a significant main effect of type of contraceptive problem on feelings of sympathy, $F(1, 68) = 7.11$, $p \leq .01$; sympathy was significantly reduced in the contraceptive accident condition compared to the non-adherence condition, as shown in Figure 3.

DISCUSSION

The purpose of this study was to examine perceptions of unintended adolescent pregnancy when associated with level of neoliberal beliefs and types of contraceptive problems. As expected, results showed that observers with greater neoliberal beliefs perceived an unintended adolescent pregnancy as more controllable than those with lesser neoliberal beliefs. Results also showed that a pregnancy following a contraceptive accident was perceived as less controllable and

elicited more feelings of sympathy toward the pregnant adolescent compared to a pregnancy following contraceptive non-adherence. Unexpectedly, neoliberal beliefs were not associated with sympathy for an unintentionally pregnant adolescent. As expected, however, a contraceptive accident was perceived to be less controllable than contraceptive non-adherence, although unexpectedly, this was independent of and not interactive with the observer's level of neoliberal beliefs.

The current study findings suggested that neoliberal attitudes might shape observers' cognitive appraisals of unintended adolescent pregnancy. These results extend prior research that suggests adherence to neoliberal ideology is connected to beliefs about sexuality. For example, Bay-Cheng et al. (2015) found that individuals who held strong neoliberal beliefs were more likely to hold victim-blaming positions about rape and have doubts regarding the existence and salience of sexism. Additionally, Katz and Ostroot (in press) found that in cases of potential sexual assault, level of willingness to help was related to observers' level of neoliberal beliefs, as more neoliberal beliefs predicted more victim blame and subsequently less

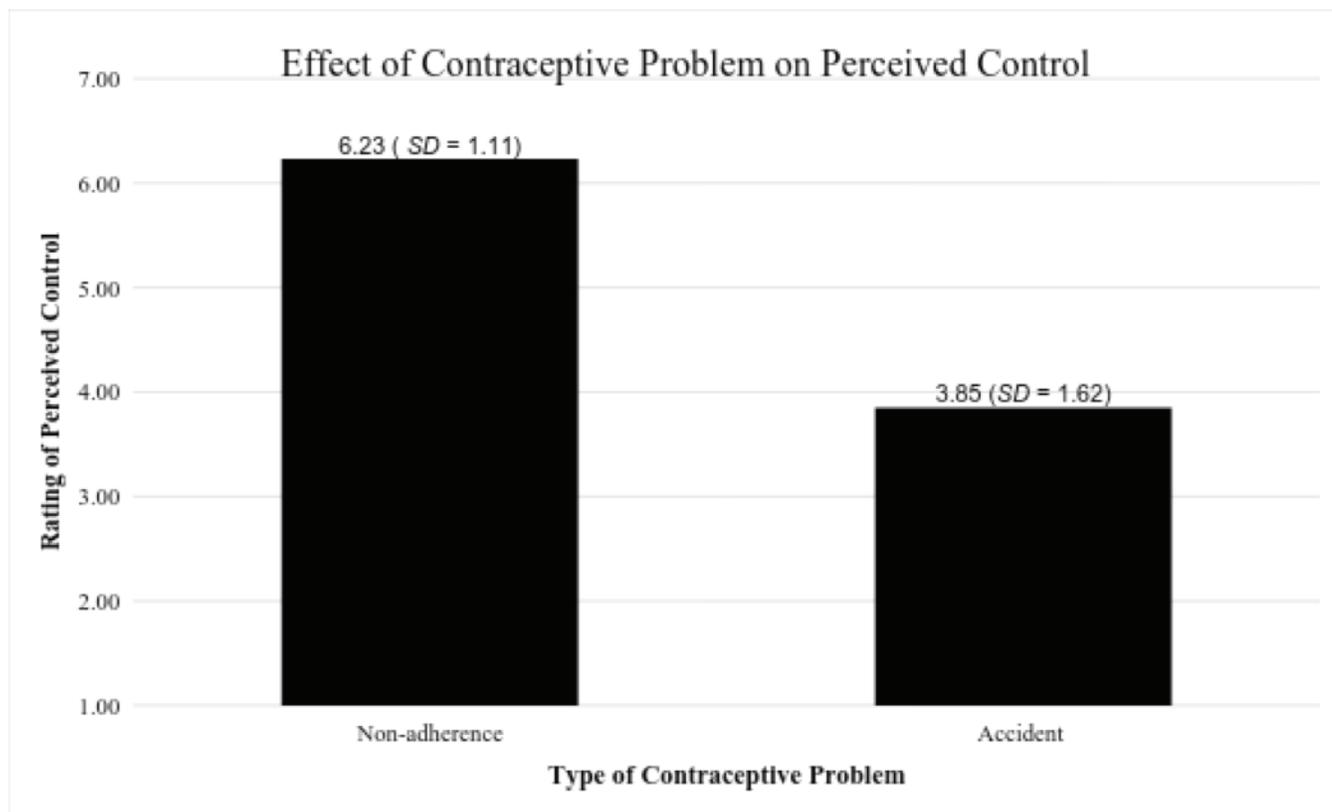


Figure 2. Effect of Contraceptive Problem on Perceptions of an Adolescent's Control over an Unintentional Pregnancy ($N = 72$)



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willingness to help. The current result linking neoliberal beliefs to perceived control over pregnancy provides additional support for the connection between neoliberalism and perceived sexuality while also extending the past literature on neoliberal ideology by showing its applicability to a new group of stigmatized individuals: pregnant adolescents.

The current results also suggested that some pregnant adolescents are perceived in less stigmatizing ways depending on the circumstances leading up to the pregnancy context; specifically, whether pregnancy followed a contraceptive accident or contraceptive non-adherence. That is, a contraceptive accident was perceived as less controllable and elicited more feelings of sympathy than contraceptive non-adherence. These results add to prior research suggesting that individuals are viewed differently depending on the context leading into a negative outcome. For example, Slonim et al. (2015) found that people who were single by choice were subject to different kinds of stereotypes than people who did not choose to be single; singles by choice were perceived as more lonely and miserable, as well as less warm and sociable than those who did not choose to be single.

The current finding that context of pregnancy influences perceptions of adolescent pregnancy could help explain discrepancies in past studies. For example, Eshbaugh (2011) and Kim et al. (2013) found inconsistent findings regarding the relationship between contact with a teen mother and positive perceptions of teen mothers. This may be because participants in the Eshbaugh (2011) study knew teen mothers whose pregnancies seems controllable, whereas participants in the Kim et al. (2013) knew teen mothers whose pregnancies seemed less controllable.

The current results suggested that neoliberal attitudes might shape cognitive appraisals (i.e. perceived control), but not emotions (i.e. sympathy). If replicable, this pattern of findings may suggest that neoliberal ideology primarily affects judgments toward, rather than emotional responses, to individuals in adverse circumstances. The current study could suggest that individuals who adhere to neoliberal beliefs are sympathetic to young people, as the unintended pregnancy described was an adolescent couple. However, those feelings of sympathy may not be comparable for an unintended pregnancy in an adult couple. This would make sense, given that prior research has

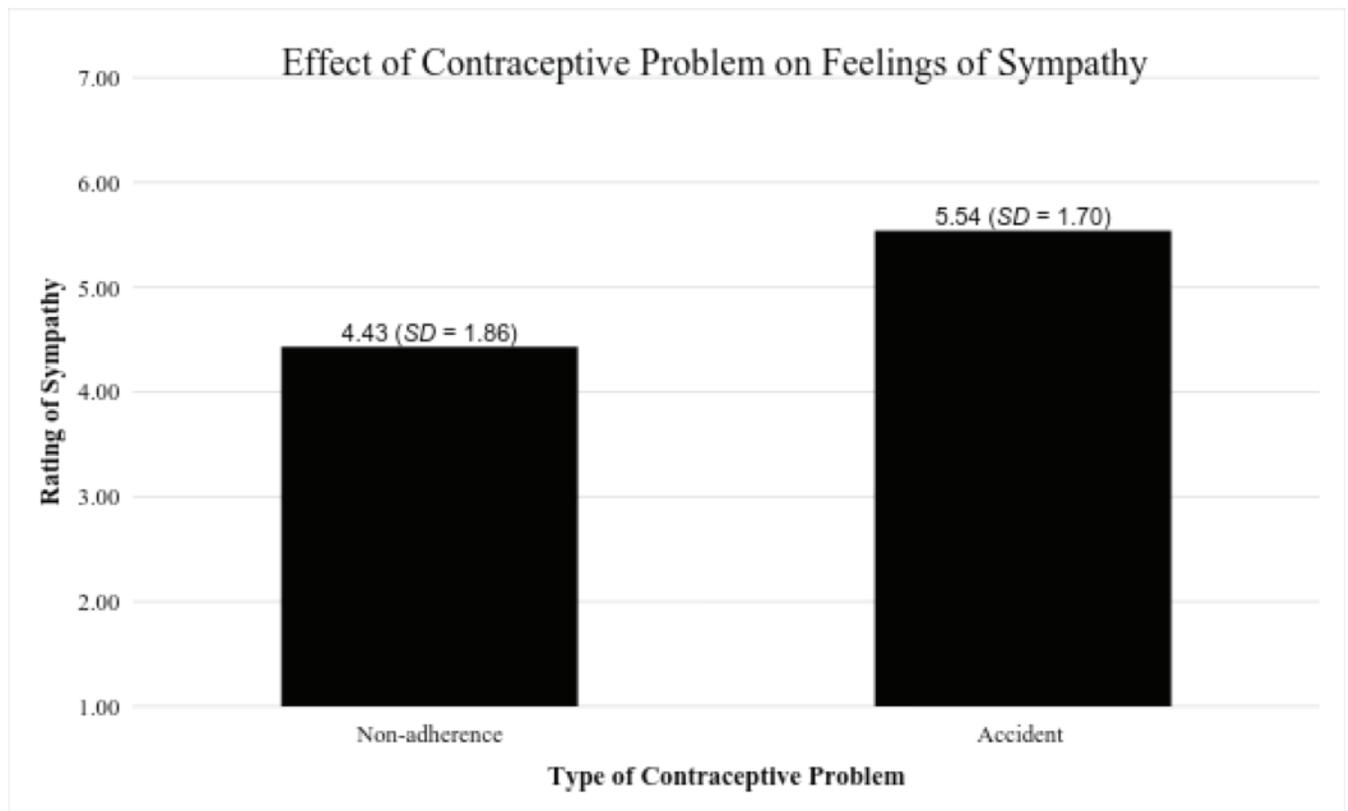


Figure 3. Effect of Contraceptive Problem on Feelings of Sympathy for an Unintentional Adolescent Pregnancy ($N = 72$)

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Caroline O'Brien & Jennifer Katz.

Perceptions of Unintentional Adolescent Pregnancy: Associations with College Students' Neoliberal Beliefs and Type of Contraceptive Problem.

The Proceedings of GREAT Day (2017): 11-14.

found humans have developed a care/harm foundation in response to the adaptive challenge of caring for helpless children; this foundation makes us sensitive to signs of need, causing us to express care for those we perceive as vulnerable, namely children (Haidt, 2012). Further research is needed on unintended adult pregnancy to explore this possibility. The current study might also suggest that political beliefs beyond neoliberalism are related to feelings of sympathy. Previous research has shown that individuals who are perceived as responsible for their negative life experiences, a dominant explanation by conservative ideology, tend to elicit anger and neglect, as opposed to sympathy and helping care (Weiner, Osborne, & Rudolph, 2011). Further research is needed on the relationship between unintended pregnancy and political beliefs to explore this possibility.

The study findings suggested that, although neoliberal attitudes may shape perceived control of an unintended adolescent pregnancy, observers with greater neoliberal beliefs still consider a contraceptive accident less controllable than contraceptive non-adherence, similarly to those with lesser neoliberal beliefs. This was unexpected, given that neoliberal ideology asserts that individuals are expected to be in control over their lives regardless of life circumstances or contexts (Bay-Cheng, 2015). The current study could suggest that those who endorse neoliberal ideals may still recognize that their ideals do not reflect reality. Should this result be replicated in future studies, this might suggest that pregnancies following a contraceptive accident are perceived as less controllable than pregnancies following contraceptive non-adherence, despite the observer's level of neoliberal beliefs. In fact, fertility is not completely controllable, and if these findings can be replicated, it suggests neoliberal beliefs do not blind individuals to this fact.

Limitations of the current study should be addressed. First, our sample included primarily White women and findings may not generalize well to groups beyond these individuals. The lack of gender diversity may not be as much of a problem as the lack of racial diversity though, given that Weed & Nicholson (2015) found that gender did not predict perceptions of pregnant or parenting adolescents. Second, this study was conducted on a predominantly liberal college campus in the Northeastern U.S. and findings may not generalize beyond this setting. Convergence

between the current findings and past research conducted in other settings provides some reassurance, but replication in other geographic areas is needed.

Future research might explore several other issues. First, the present study examined perceptions of pregnant adolescents specifically, but future studies might also look at perceptions of parenting adolescents, as previous studies have done (Eshbaugh, 2011; Kim et al., 2013; Weed & Nicholson, 2015). This distinction is important, as pregnancy is a time-limited experience, whereas parenting is longer-term, giving parenting adolescents more opportunity for exposure to stigmatization. Neoliberal beliefs may affect perceptions of deservingness of resources. Relatedly, future research might also explore how perceptions of unintended adolescent pregnancy impact positions on welfare assistance for teen mothers, as prior research suggests many people associate teen mothers with welfare dependency (Whitehead, 2001). Research might also examine how perceptions of unintended adolescent pregnancy and neoliberal beliefs impact willingness to interact with a teen mother and interaction behaviors, as individuals may come into contact with teen mothers in their lives and it's important to be aware how judgments impact interactions (Eshbaugh, 2011) and level of compassion. Finally, future studies might also address how perceptions of unintended adolescent pregnancy and neoliberal beliefs impact views about accessibility to comprehensive sex education and contraceptive methods, as prior research has established contraceptive non-adherence is a common issue experienced among adolescents (Manlove et al., 2003; Tyler et al., 2014).

The findings from the current study suggest that strong neoliberal beliefs predict more perceived control in scenarios of unintended adolescent pregnancy. They also suggest that pregnancies following a contraceptive accident will be perceived as less controllable and elicit more feelings of sympathy toward the pregnant adolescent compared to a pregnancy following contraceptive non-adherence. First, the findings from this study might be used to promote the wellbeing of pregnant and parenting adolescents in social service, clinical and school settings, as adolescents have reported feeling stigmatized in these settings (Eshbaugh, 2011; Gregson, 2009, as cited in Smith-Battle, 2013; Silver, 2008). Educators and providers



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might use this information to improve their attitudes toward pregnant adolescents. This would make for better and more effective care. Second, the findings from the current study may be useful in reducing negative social evaluations of pregnant and parenting teens, as these evaluations may make it difficult for pregnant and parenting teens to stay in school and finish their education (Wiemann et al., 2005), as well as receive proper prenatal care (Atuyambe et al., 2009). Finally, these findings might be used to help educate individuals, particularly those studying areas such as social work and family services, about stigmatization of pregnant and parenting adolescents, in hopes of making students more aware of their own perceptions (Eshbaugh, 2011). Together, these implications may be used to improve the lives as well as perceptions of pregnant and parenting adolescents.

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An Interview with Tessa R. Horn

Hometown:

Queens, NY

Major:

Anthropology

What have you been up to since graduating from Geneseo?

After graduating from Geneseo, I joined Teach for America. I was assigned to the Greater New Orleans region where I now teach 1st grade at Laureate Academy in Jefferson Parrish.

Why do you feel that GREAT Day is important?

I feel that GREAT Day is important because it allowed me the chance to exhibit my research that I had slaved over and was very proud of and committed to. It gave me the opportunity to present the research in a place that was familiar and comfortable before bringing it to other conferences or considering having it published.

What was your experience presenting your work at GREAT Day?

It was a very relaxed, stress free environment. It was cool to have professors and students from other departments see my work and make connections to their own fields and ask questions I hadn't even considered which I could use for future research.

Cooking with Rocks the Hopewell Way: Experimenting with Earth Oven Efficiency

Tessa R. Horn

Sponsored by Paul Pacheco

ABSTRACT

My research generates data to show which attributes make an earth oven successful and efficient. To answer this question, I built earth ovens of different size, shape, and depth. A thermocouple was used to monitor the temperatures throughout each cooking event. This allowed me to compare the effectiveness of the different ovens using temperature vs. time graphs. The size of the ovens and the quantity of rocks used were extrapolated from archaeological data from three Ohio Hopewell habitation sites: Balthaser Home, Brown's Bottom #1, and Lady's Run. By recreating earth ovens of varying shapes, sizes, and depths, I attempt to explain how different combinations of variables affect the efficiency of earth ovens by comparing how these differences are reflected in the archaeological record. My continued research uses data from previous trials to go a step further and predict temperature outcomes of earth ovens.

INTRODUCTION

Cooking food and the processes by which it is made edible is an important part of every culture around the world. Hot rock cooking is a technology that nearly every hunter-gatherer society has used at one point. Also known as earth ovens, hot rock cooking technologies have been found at archaeological sites world-wide, dating back tens of thousands of years (Black & Thoms, 2014). In the United States, earth ovens appeared within the last 10,000 years and some ethnographers have described, in detail, the process of creating one. I used ethnographies, experimental archaeology accounts, and data from archaeological records to create an experiment in which I tested the efficiency of earth ovens; this was based on temperatures reached in ovens of different widths and depths, and the length of time the ovens remained at or above cooking temperatures. This data was then used to create a second experiment in which I tested the predictability of earth oven temperatures throughout the use of the oven. All of the ovens which I tested were modeled after ovens created by the Ohio Hopewell in an effort to better understand the cultural implications of the cooking technology with the context of the Eastern Woodlands.

EXPERIMENTS AND RESEARCH

ON HOT ROCK COOKING

Black, Ellis, Creel, and Goode (1997) present an in-depth analysis of hot rock cooking throughout the Great Edwards Plateau in Texas. They discovered that hot rock technology has been used for more than 6,000 years in that region. Most of these earth ovens show evidence of multiple uses over long spans of time; however, it is hard to distinguish between different periods of use (Ellis & Black, 1997, p. 9). Black et al. (1997) discuss who built earth ovens, why they were built, and who used them: a topic which I will discuss throughout this paper.

Ellis (1997) argues that the emergence of hot rock technology is a form of niche construction, similar to the explanation of Smith (2007) for the development of agriculture. When humans cannot accomplish something using the world as it already exists, they are able to alter the state of their surroundings using technology to accomplish goals:

People often have goals or needs (purposes) for which they lack a direct biological capacity to achieve. As a result, they are forced to rely on extrasomatic means



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such as tools or instruments to meet these goals. (Black et al., 1997, p. 44)

In this case, the human goal was to exploit new resources. Black et al. (1997), however, are more interested in the continued relationship between humans and their technology, particularly hot rock cooking. When different groups started to use hot rock technology, it began to change due to preference of style and function, resulting in multiple, different forms of technology utilizing hot rocks. Because of this, archaeologists should be more aware of how they refer to evidence of hot rock technology and try to explore and explain the context and purpose of each type of technology.

Alston Thoms is one of the lead researchers on earth ovens. He explained why earth ovens were such an important innovation:

1. They allowed communities to take advantage of food resources that were previously unavailable and to support larger populations of people (Thoms, 2009, p. 577). Since this generally meant that people would be able to exploit resources that require long cooking times, Thoms (2009, p. 576) argues that earth ovens will appear more frequently in areas where geophytes require longer cooking times to be rendered digestible as opposed to areas with flora that do not require long cooking times. According to Thoms (2009, p. 576), earth ovens also allowed for geophytes to be processed in large quantities.
2. Earth ovens are fuel efficient (Thoms, 2009, p. 576). Earth ovens were useful in areas that lacked slow-burning fuel since it would require less fuel to heat up the rocks which would then retain heat for many hours. This was more desirable as one would have to expel more labor to feed a fire continuously for the amount of time an earth oven could be used (Thoms, 2009, p. 576).
3. Hot rock technology allowed for a wide variety in cooking methods that included open air griddles, baking, steaming, and even sweat baths (Thoms, 2009, p. 577).

Cooking with earth ovens involves heating up rocks in a fire and then burying food with the hot rocks beneath the ground. Since the rocks can retain heat for a long period of time, the product is a slow-cooked meal. There are different types of earth ovens that can be utilized for different cooking purposes: some earth ovens are created by heating rocks on an open air hearth and then inserting the rocks into a pit, placing food on top, and covering the pit; other earth ovens are made by heating the rocks *in situ*, waiting for the fire to die down, and then adding the food. The difference between the two can usually be inferred from the archaeological context: ovens where rocks have been heated *in situ* will contain layers of charcoal beneath the rocks (Black & Thoms, 2014). Another type of earth oven involves leaving an opening to pour water into the pit so that the food is boiled by the water heated from hot rocks (Thoms, 2008). As mentioned earlier, other uses for hot rock technology involve heating rocks for grilling or hearths but these are above ground technologies that do not get covered with soil during the cooking process so I have excluded them when referring to earth ovens. For a more in-depth examination of the large variety of hot rock cooking technology, one should consult Black et al.'s *Hot Rock Cooking on the Greater Edwards Plateau: Four Burned Rock Midden Sites in West Central Texas* (1997, 61–77).

Fire cracked rock, or FCR, is a common term used to describe the byproduct of earth oven cooking that is found in the archaeological record. FCR typically signals the presence of an earth oven. Graesch, DiMare, Schachner, Schaepe, & Dallen (2014, p. 168) argue that this byproduct, which has higher rates of preservation than many artifacts and most ecofacts, is understudied and can provide important information about subsistence and cultural practices. They (2014, p. 168) use the term “Thermally Modified Rock,” or TMR, to describe the byproduct, rather than FCR, because results from their study performed on quartzite and three different kinds of igneous rocks showed that it is not actually the fire that causes the rocks to crack but the rapid change in temperature. Graesch et al. (2014) found that while rocks heated by fire did tend to crack, they cracked at a higher rate when water was added to the pit of hot rocks, the way it would be added for stone boiling. This caused the rocks to rapidly drop in temperature which Graesch

et al. (2014) believe to be the reason for the increased rate of cracked rocks. They also realized that the longer the rocks were left in the hearth before being introduced to water, the more likely they were to crack. It is experiments such as these that can provide insight into how TMR assemblages in the archaeological record have been formed. Despite Graesch et al.'s (2014) distinction, for the rest of this article I will call this type of byproduct "FCR" since that is still the most common term and the term used by those whose articles I am referring to.

There is a lot of information that can be gathered from the remains of earth ovens (Pecora, 2013). For example, Sullivan, Cook, Purtill, and Uphus (2001) examined FCR piles in Arizona that were associated with sweat lodges and thought to have been used by Native Americans of the 19th century. However, they discovered through flotation that the ovens had been used almost exclusively for processing plant foods. Also found at the site were bifacial stone tools and flakes, ceramics, and animal bones showing evidence of having been heated and processed. They propose (Sullivan et al., 2001, p. 371) that strong evidence for high levels of reuse suggests that these rock piles and basins are, in fact, prehistoric ovens for plant processing. They argue (Sullivan et al., 2001, p. 378) that the land had been in use for a long period of time, producing assemblages and features that seem as though they were associated with one another, when they were, in fact, from separate occupations.

Leach, Bousman, and Nickels (2005) discuss another way in which earth ovens give archaeologists important information. Within many earth ovens are artifacts and ecofacts, evidence that Sullivan et al. (2001) found in their soil samples, as well as carbonized food and wood which may be used to date the oven, providing information about site occupation history (Pecora 2013). While these artifacts and ecofacts give information about food processing technologies and culture, Leach et al. (2005, p. 201) warn that in many cases it is difficult to determine whether these by-products of human existence have been found in context. They argue that because of the way earth ovens are built (by removing and replacing dirt), not all artifacts found with an oven were intentionally used to create that oven. In addition to human activity, there are also geological forces that could con-

tribute to the movement of dirt and artifacts into an oven with which they were not necessarily associated (Leach et al., 2005, p. 202).

An experimental study by Jensen, Jensen, and Clegg (1999) recreated earth ovens to examine how much FCR was generated with each use and how efficient the rocks were after repeated use. They refer to the data gathered as describing the "intensity of activity" (Jensen et al., 1999, p. 51). This applies more specifically to the feature of the oven as opposed to land use intensity, which is more of a description of how the entire landscape was utilized by hunter-gatherer societies. For their experiment, they first created earth ovens. After each oven was assembled and used, rocks that were too small to reuse were collected until they matched the size of an assemblage of discarded rocks (presumably because they were too small to retain heat for use in another oven; the larger the surface area of the rock in relation the volume, the more space there is for heat to escape) found at the site. By doing this, they were able to determine how many earth ovens would have needed to be fired or re-fired in order to create the assemblage.

For his Master's thesis, Michael Federoff (2009) experimented with different amounts of rocks in clay-lined earth ovens to test if a variation in amount of rocks would produce a variation in temperature and heat retention. The earth ovens he constructed were all lined with 20 lbs of clay. Sandstone was used for the rock element in each oven. He discovered that the smallest amount of rocks he used (5 lbs) led to the highest temperatures. Using 15 lbs of rocks did not result in higher temperatures than the oven containing 5 lbs, though the temperatures decreased at a slower rate. He determined the least efficient amount to be 40 lbs; not only did it require more fuel and a longer amount of time being fired, it also yielded the lowest temperatures.

Wandsnider (1997) has done an interesting analysis of how the chemical properties of food change during the cooking process, specifically in the case of varying types of hot rock technologies. Wandsnider discusses how cooking food has multiple benefits: not only can it make digestion easier and maximize nutrient value, but it can also kill dangerous bacteria as well as enable longer storage of food.



An important way in which nutrient value is maximized through cooking is through starting the process of hydrolysis outside of the body (Wandsnider, 1997). Hydrolysis is defined as “the chemical breakdown of compound due to reaction with water” (“Hydrolysis, n.d.). This process happens naturally within the intestines, however, if the process is started prior to eating, the intestines will be able to absorb more of the nutrients from food since more of it will already be broken down (Wandsnider, 1997). Additionally, processing food can kill bacteria and reduce potential threats from consuming raw foods (Wandsnider, 1997).

Wandsnider (1997, p. 7) explains that while simple sugars are broken down and easily absorbed within the body without being cooked, more complicated carbohydrates must be cooked in order to absorb sufficient nutrients. However, in some cases as is demonstrated with the carbohydrate fructan, consuming uncooked carbohydrates can serve purposes other than providing nutritional value. Wandsnider (1997, p. 7) states that raw fructans are a good way to relieve constipation because of their ability to “suppress the production of intestinal putrefactive substances.”

By using food processing technologies to break down lipids, one can accomplish similar results to preparing carbohydrates for consumption. Hydrolysis can be utilized with simple fats to separate cholesteryl ester molecules, a molecule of the carboxylate group of a fatty acid bound to the hydroxyl group of cholesterol, to make digestion easier by liberating fatty acids (Wandsnider (1997, p. 9). Applying heat to lipids is also a method of preservation, enabling the consumer to eat it over a longer period of time. Another reason to cook lipids includes “reducing cooking time, and preparing flavorful and more chewable foods” (Wandsnider, 1997, p. 9). Cooking proteins also makes digestion easier and reduces the risk of contracting illness. It is important to note that while cooking proteins has benefits, overcooking or cooking at too high a heat can reduce nutritional value such as available amino acids. There are other aspects of an animal that contribute to its nutritional value, including its age, size, and amount of connective tissue that must be taken into account when trying to cook food efficiently (Wandsnider, 1997).

Wandsnider (1997) has drawn connections between ethnographic accounts of food processing and her research on nutritional composition and heat treatment. She discovered that methods used for cooking various foods are consistent with the type of processing that would provide the highest nutritional value. Regardless of the fat content of the animal, pit roasting (earth ovens), coal roasting, and boiling were by far the two most popular methods of processing foods. It is, however, foods rich in inulin and lipids that are most often processed in pits. Protein requires very little heat exposure (two or three hours, for maximization of nutritional potential) whereas plant materials may require anywhere between two hours to sixty hours in order to obtain their full nutritional value. In many cases, an extra water element is added when processing plant material to increase hydrolysis (Wandsnider, 1997 p. 22). It seems that whether people knew it or not, they increased their food nutrition potential by the way they processed it.

OVENS IN THE SOUTHWEST UNITED STATES

Because of the ideal preservation conditions of the American Southwest, much is known about those who inhabited the area. Well-preserved bone, coprolites, and botanical remains have given us a lot of information about subsistence patterns (Dering, 1999). Earth ovens are present at most sites throughout the Southwest (Black et al., 1997) and were clearly an important part of subsistence strategies. Due to this fact, the most prominent research on earth ovens has been conducted within the Southwest region. Dering’s (1999) study has focused primarily on botanical remains found within the ovens themselves.

Through his study of botanical remains, Dering (1999) has made important discoveries about Southwest subsistence practices and exactly what was cooked in prehistoric earth ovens. He notes that many of these plants do not require intense processing for consumption. This supports Thoms’ (2008; 2009) assertion that ovens were often used for bulk cooking in addition to specific types of food processing.

During his research, Dering (1999) constructed experimental earth ovens in order to compare time, energy, and amount of material put into creating



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an oven, to caloric yields. His goal was to determine whether lecheguilla, sotol, and prickly pear were prized resources that were made exploitable through the use of earth ovens, or if the use of earth ovens was a response to subsistence stress that caused them to rely on foods and methods providing low caloric yield comparable to time and energy required for processing. He discovered that, “Both lechuguilla and sotol return rates are comparable to lower-ranked resources such as grass seed and many root foods” (Dering, 1999, p. 666). Because of the massive amounts that would need to be cooked for a decent caloric yield, Dering (1999, p. 666) claims that reliance on these resources has been overestimated throughout the Southwest. They were not mass-processed because people subsisted primarily on these resources, but because processing them in small amounts would not be worth processing at all considering the time and energy needed to do so. According to Dering (1999) it is likely that lechuguilla, sotol, and prickly pear were used to supplement carbohydrates when the environment was good, and were relied upon more heavily out of necessity during times of drought.

While Dering (1999) claims that his research is applicable to earth ovens found globally, botanical remains found in Hopewell ovens do not match those found in the Southwest. It would have been impossible for the Hopewell to process food that did not exist in the Eastern Woodlands. The Southwest is unique area that experiences long periods of drought resulting in different subsistence methods. Therefore, I would argue that his research applies directly only to the Southwest and perhaps marginally to other regions throughout the world that are similar both environmentally and culturally.

Brian Heisinger (2015) from Texas State University has recently started an expedition—called the Ancient Southwest Texas Project—to document all the earth ovens within Eagle Nest Canyon. Not only did he and his students excavate and analyze various sites, they also made an earth oven of their own. In their experiment they chose the location for building their earth oven on three main criteria: soil, fuel, and food. They also made sure their oven was not constructed on a pre-existing archaeological site. Their primary focus in constructing this earth oven was to observe the rate at which limestone breaks down when exposed to heat. Heisinger (2015) states this is one of

the many important things that can be discovered through constructing experimental earth ovens.

Peacock (2008) focused on the plateau region between the Rocky Mountains and the coastal cordillera that the Interior Salish People occupied (Salish, 2017). He agrees that pit cooking was often used for processing complex carbohydrates. Peacock (2008, p. 117) demonstrates that the technology for processing complex carbs was vital for the Interior Salish People. They subsisted mainly on wild plant foods, which Peacock (2008) believes they cultivated and harvested selectively. Possibly, their most important root resource was balsamroot which they not only ate, but also used ceremoniously and medicinally (Peacock, 2008, p. 119). The pits constructed in this region were described as follows:

Dry roots are cooked in the following manner: a circular hole is dug in the ground to the depth of two feet and a half and large enough in diameter to contain the roots to be cooked. Into this hole are put four or five flat stones — one in the centre and the others around the sides. Above these is piled a large heap of dry fir-wood, on which is placed a quantity of small stones. The wood is then kindled, and allowed to burn until nothing but the embers remain, when the small stones drop down to the bottom of the hole.

The unburnt wood is next taken out, leaving nothing but the ashes and stones. Enough damp earth is then shoveled into cover thinly the top of the stones, and this is overspread to the depth of half a foot or more, with the broken fir branches, over which is spread a layer of dry yellow-pine needles, and still another layer of fir branches. By this time the hole is nearly filled up.

The roots are then placed on the top, and covered carefully with a thick layer of fir branches. The whole is covered with earth, and a large fire of fir-wood is kindled on top. In this way immense quantities of roots are cooked at one time.



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They remain in the oven—according to the kind being cooked—from 12 to 24 hours. (Teit, 1900, pp. 236–237 In: Peacock, 2008)

In pits like these, which are scattered throughout the Southwest area of British Columbia, more than half of the Interior Salish’s root diet was processed. Teit also noted that the Salish added an extra water element, a practice that Wandsnider’s (1997) research proved was a more efficient way of converting inulin to fructose.

Ethnographic research has also been useful for discovering who was involved in different parts of pit cooking. Elder Lily Harry of the Secwepemc recalled children helping to remove the balsamroot from the pits. She remembered that the balsamroot was the most difficult to make, implicating her participation in the process. None of the other ethnographic accounts within Peacock’s (2008) article specify gender or age of those involved in constructing the pit or the processing that occurred after the food was cooked. I believe this suggests that, at least for the Salish people, earth oven cooking was not a gendered activity.

EARTH OVENS IN THE EASTERN WOODLANDS

Earth ovens began to appear in In the Eastern Woodlands during the Archaic (Seeman & Dancey, 2000) (excluding an earth oven at a site on Staten Island which I will discuss later), and continue to be seen throughout the Early and Middle Woodland periods (Wellborn, Yerka, & Barry, 2016), however, the people of this region relied on very different food sources than in the Southwest which is a unique area experiencing long periods of drought that result in different subsistence methods. This is why it is important to begin researching the ovens of the Eastern Woodlands.

Ohio Hopewell communities were composed of dispersed settlements that would periodically congregate at earthworks and mound centers (Pacheco & Dancey, 2006). Subsistence patterns, which are consistent across all know domestic settlements, included domesticated plants of the Eastern Agricultural Complex, but hunting and gathering was still relied upon (Wymer, 1996). At all of the sites included here; Brown’s Bottom #1, Lady’s Run, and Balthaser,

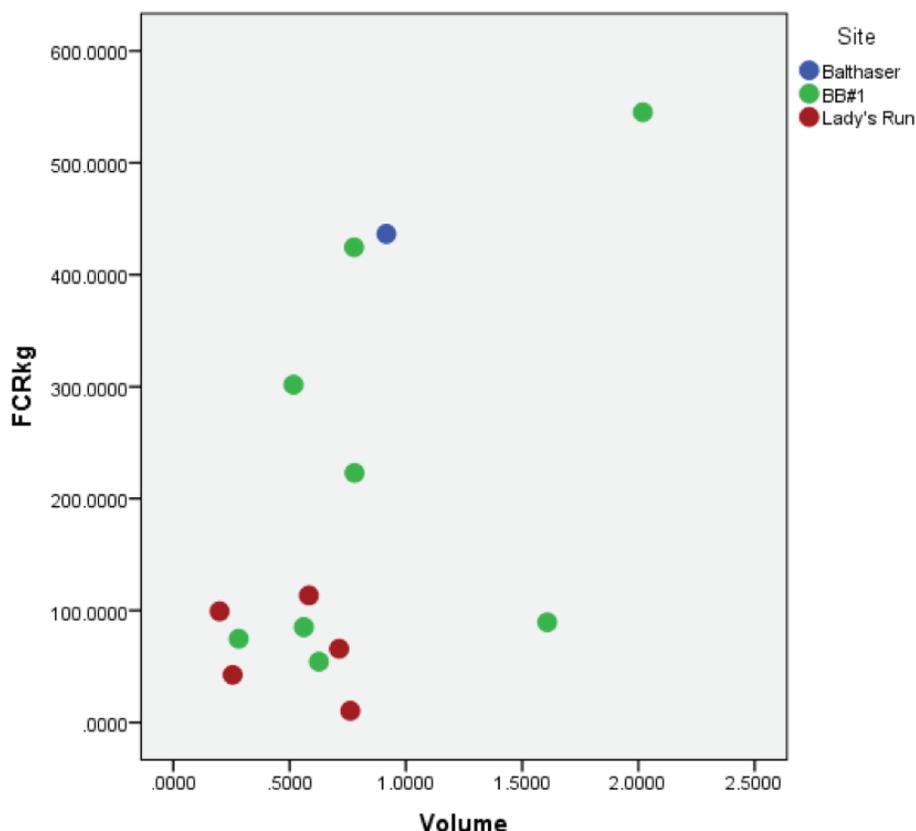


Figure 1. All Ohio Hopewell ovens



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earth ovens are found in association with but outside of domestic structures. The fact that these earth ovens are found outside the structures implies they had been used for cooking but it is important to note that the prehistoric people of the Eastern Woodlands also used hot rock technology for heating purposes, sometimes by using passive thermal basins full of hot rocks inside of houses (Kanter, 2015; Pecora 2013).

While there has not been extensive research done on Hopewell earth oven technology, we do have data from multiple domestic sites that has been collected by the collaborative efforts of SUNY Geneseo and Bloomsburg University during archaeological field schools from 2005–2015. These data demonstrate the relationship between size of the oven and amount of rocks used for cooking. The correlation between feature volume and the amount of FCR used is only $R=0.54$ which is significant at $p=0.044$, but several of these ovens had been deconstructed, meaning the functional layer of rock at the bottom of the oven—which overlies the fire layer—had been cleaned out. After removing these pits from the data set, the correlation between the volume of the pit and the amount of FCR used rises to $R=0.8$, which is highly significant at $p=0.006$ (Figures 1 and 2).

Evidence of earth ovens has also been found in Tennessee starting as early as the Archaic and then appearing more frequently during the Early and Middle Woodland periods. Early Woodland is marked by a widespread use of ceramics which Wellborn et al. (2016) claim is indicative of a semi-sedentary lifestyle due to the time commitment of creating the ceramics as well as its heavy and fragile nature which inhibits portability. Middle Woodland is differentiated by the appearance of more non-local artifacts and earthen structures (Wellborn, Yerka, Barry, & Hollenbach, 2016). Similar to Ohio Hopewell, these were hunter-gatherer/cultivators who ate deer, turkey, bear, turtle, nuts, and squash, and were also engaged in cultivation of the indigenous EAC system (Pacheco & Dancey, 2006; Wellborn a., 2016). These resources are very different from what was predominantly consumed in the Southwest. Wellborn (a.) and colleagues interpret the increased number of earth ovens during the Early and Middle Woodland period to mean that people were switching to more starchy, fatty seeds with more of a focus on small game than seen previously (2016, p. 7).

An interesting site in West Central Illinois brought up a lot of questions about the different uses of earth

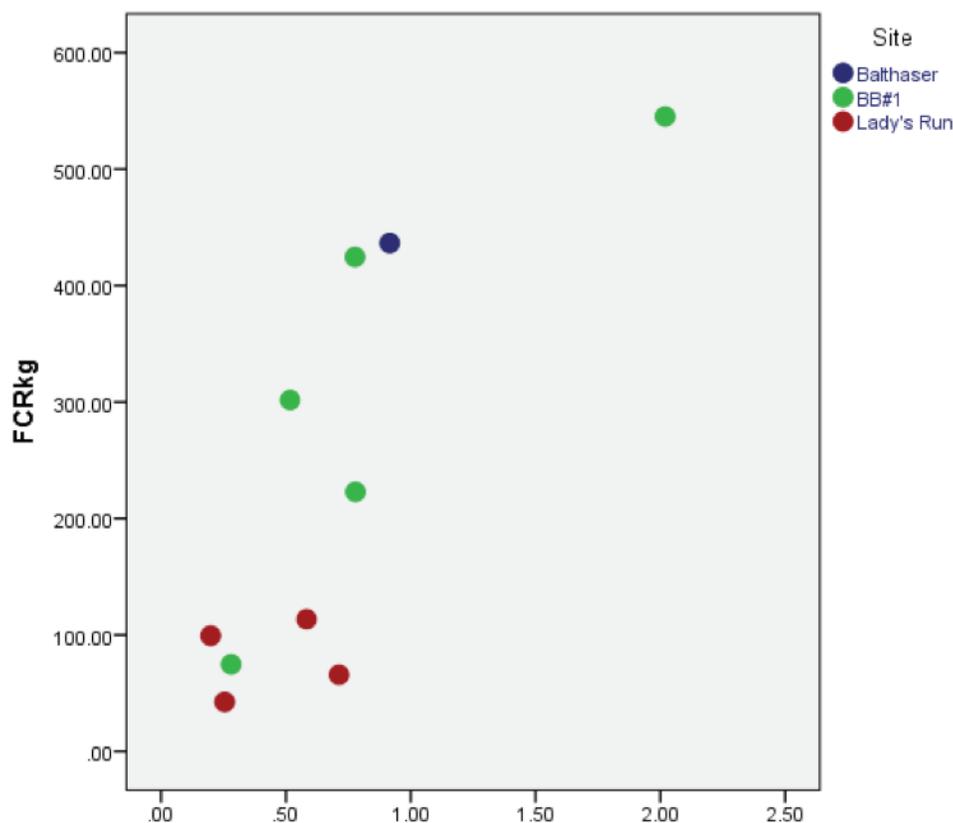


Figure 2. Volume vs FCR correlation with deconstructed ovens removed.



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ovens and how those in the Eastern Woodlands differed from those in the Southwest. Wilson and VanDerwarker (2015, p. 168) draw attention to the fact that while many earth ovens have been found in the archaeological record in the east, there is not much evidence in the ethnographic record, whereas both are abundant in the west. They (2015, p. 168) also make a distinction between direct cooking (fire made in the pit used for high temperature cooking) and indirect cooking (rocks heated then put into the pit, used for foods needing a “moist cooking environment”), which is not a distinction I had seen stated elsewhere in earth oven literature. Most refer to these phenomena as rocks being heated in situ or not in situ and do not make an assertion as to why this choice was made. Apparently, Binford, Whallon, and Hardin (1970) once tried to make a similar distinction by classifying ovens into “deep” and “shallow,” claiming that the deep ovens with high levels of oxidation were used for indirect cooking, whereas the shallow ones with low soil oxidation were used for direct cooking. Recent research shows that Binford actually had this backwards since it is the process of heating the stones in situ that causes that high levels of soil oxidation observed in the deeper pits (Wilson & VanDerwarker, 2015).

Wilson and VanDerwarker (2015, p. 173) explain that is generally difficult to determine an earth oven’s use at the time of creation in Central Illinois. This is because they are often cleaned out and the removed fill is deposited into trash middens, and sometimes trash is redeposited into the cleaned out ovens. This was not the case with a particular oven they found at the C.W. Cooper site in which the food had not even been removed. Feature 13 is an earth oven dating to the Early Mississippian period (A.D. 1150–1200). Inside the oven was an entire feast of maize, nuts, weeds, fruit, beans, squash and sunflower. This represents an incredibly unique situation in which this food was either abandoned before it could be recovered, or had been burned beyond edibility and was refilled and abandoned after it had been cooked (Wilson & VanDerwarker, 2015). Wilson and VanDerwarker further describe the oven they found:

In this case a clay layer placed directly over a large number of maize ears which served to shield the maize from direct

contact with a fire built above it. This particular cooking event represents a direct method insofar as a fire was built inside (but at the top of) the pit, but could also be considered indirect in that a thick clay layer buffered the maize from direct contact with the fire. It is clear that the method of cooking used in this feature differs from techniques used in the majority of the ethnographic examples, in which the cooks built the fire (or placed hot rocks) at the base of the earth oven. (Wilson & VanDerwarker, 2015, p. 173)

Wilson and VanDerwarker concluded that the size of the oven, in addition to the amount of matter found inside, supports Thoms’s (1998, 2008, 2009, 2015) theories that ovens (or at least this particular oven) were used for communal feasting. This conclusion is solely based on the vast quantity of food being more than a single family could consume in one meal.

Another interesting earth oven was excavated on Staten Island at the Old Place Neck site. What is especially intriguing about this site is that there is evidence of periodic occupation dating back 10,000 years marked by the discovery of a Dalton point. The oldest earth oven at this site was dated to 6,000 years B.P. Inside the oven was evidence of cooked tubers wrapped in grasses. This oven predates the other Eastern Woodland ovens by about five thousand years (Public Archaeology Laboratory, 2012).

Earth ovens began to appear in the archaeological record in New Jersey in the Terminal Archaic, but likely were in use prior to this time. Williams and Thomas (1982, p. 112) mention the presence of hearths in Early and Middle Woodland, but not hot rock technology, a trend very different from that which is observed in Ohio. Hot rock technology makes a reappearance in the Late Woodland which Kraft and Mounier (1982b., p. 151) believe were used for smoking and drying seafood. Unlike Hopewell sites or sites in Tennessee and Illinois, in New Jersey, there is evidence of stone boiling and use of talc pots and soapstone utensils (Kraft & Mounier, 1982a.). It is unclear whether these were used in conjunction with or instead of hot rock technology. There is sufficient evidence during the Late Woodland that clay pots were being used in the cooking process (Kraft



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& Mounier, 1982). Another important difference in this area is the reliance on littoral subsistence.

In Missouri, earth ovens began to appear during the Late Archaic period, and Harl and Machiran (2013) interpret this to mean that the economy was expanding via intensive nut processing (in addition to other food technology such as cultivation). They also use the presence of earth ovens and storage pits to support an argument for a sedentary lifestyle (Harl & Machiran, 2013, p. 27) which further substantiates Pacheco and Dancy's (2006) and Wymer's (1996) assertion that the Hopewell sites at Lady's Run, Brown's Bottom #1, and Balthaser all represent sedentary occupations.

EARTH OVENS AROUND THE WORLD

In Polynesia, earth ovens are known as umu, imu, or hangi. There are both household ovens as well as communal ovens, distinguished by size (Huebert, Allen, & Wallace, 2009). Experimental studies conducted by Orliac and Watez (1989) revealed that these ovens could reach temperatures above 700 degrees Fahrenheit, but more often were between 300-500 degrees Fahrenheit. A water element was generally used to steam the contents of the oven while hot stones were covered with a layer of soil and green sticks to prevent the food from coming into direct contact with the hot rocks.

Huebert et al. (2009) wanted to study Polynesian earth ovens on the Marquesas Islands to evaluate whether choice of wood used for cooking was significant. Previously, archaeologists working in Polynesia suggested that wood was chosen by convenience and not much thought went into deciding which type to use. Huebert et al. (2009) argue that it is possible that closed ovens might have required slow burning wood in order to reach and maintain high temperatures necessary for cooking. Therefore, wood would have been selected for its burning efficiency and not based on convenience.

Huebert et al. (2009) tested charcoal from four earth ovens dating to AD 1450–1650 as well as three ovens associated with houses on a stone platform that were occupied after the 17th century during the period of European contact. In association with the ovens were remains of shellfish, pig, and breadfruit. Huebert et al. (2009) results showed that the most commonly used wood by far was from *Thespesia populnea* and *Sapindus saponaria*. These species are “dense, hard woods which are long-burning and can reach high temperatures, characteristics which would have made them ideal oven fuels” (Huebert et al., 2009, p. 87). While neither of these species are widespread in the area surrounding the site, they were often cited in myths and legends of the local people and clearly held significant cultural value. This suggests it is likely that the selection of wood was not based on convenience, but had more to do with cultural and spiritual values

Table 1
Hopewell Earth Oven Data

| Site | Feature # | Length (cm) | Width (cm) | Depth (cmbpz) | Feature Volume m ³ | FCR (kg) |
|------------------|-----------|-------------|------------|---------------|-------------------------------|----------|
| Browns Bottom #1 | 35 | 145 | 137 | 54 | 0.561 | 85.15 |
| Browns Bottom #1 | 38 | 160 | 158 | 90 | 1.608 | 89.45 |
| Browns Bottom #1 | 39 | 142 | 120 | 52 | 0.626 | 54.25 |
| Browns Bottom #1 | 228 | 170 | 120 | 54 | 0.779 | 222.89 |
| Browns Bottom #1 | 237 | 210 | 200 | 68 | 2.019 | 545.2 |
| Browns Bottom #1 | 246 | 116 | 100 | 63 | 0.517 | 301.75 |
| Browns Bottom #1 | 247 | 96 | 92 | 45 | 0.281 | 74.7 |
| Browns Bottom #1 | 308 | 133 | 124 | 60 | 0.777 | 424.5 |
| Lady's Run | 348B | 85 | 85 | 45 | 0.255 | 42.5 |
| Lady's Run | 349 | 150 | 126 | 48 | 0.713 | 65.75 |
| Lady's Run | 401 | 152 | 118 | 60 | 0.761 | 10.35 |
| Lady's Run | 412 | 123 | 123 | 55 | 0.583 | 113.45 |
| Lady's Run | 416 | 88 | 78 | 37 | 0.199 | 99.25 |
| Balthaser | 11 | 180 | 180 | 40 | .916 | 436.45 |

Ovens from BB#1 F-35, F-38, F-39, and Lady's Run F-401 had been deconstructed prior to excavation



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as well as increased burning efficiency of these wood species.

Earth ovens have been used in Northern and Western Mexico since 4900–3000 BCE (Salazar, Zizumbo-Billarreal, Brush, & Colunga-Garcia Marin, 2012). Earth ovens have not yet been discovered in the archaeological record in the Mayan lowlands but Salazar et al. (2012, p. 286) claim that they were definitely an important part of Mayan food culture in the past, just as they are today. They base this on glyphs from the Classic (AD 250–900) and Postclassic (AD 900–1500) period which portray tamales wrapped in vegetable leaves which could indicate they were being prepared in earth ovens as opposed to on a griddle. Salazar et al. (2012) also point to evidence of faunal remains; bones without cut marks or carbonization. Salazar et al. point out that Gotz's 2011 article claims this is indicative of the meat being wrapped in leaves for cooking which could mean it too was cooked in an earth oven (p. 286). There is also evidence in myths suggesting that food was being cooked in the ground:

“Son, bring me your father's bones, the ones you buried three years ago. I am eager to see them. So be it, Father. Here is what is asked for: the cooked manioc under the ground; let it be given to the True Man.” (Mediz-Bolio, 2005, p. 53)

Earth Ovens are ubiquitous throughout Europe as well. The earliest sites are in France and date to the Late Aurignacian period (33000–32000BP). In this context they are often referred to as “pyrolithic technology.” Evidence of stone lined pits has been found throughout Germany, Spain, Italy, Poland, and England dating back to the Neolithic and Bronze Age (Hawkes, 2013). Wood (2000) has recreated various ovens found throughout Cornwall that show

funerary cooking has occurred at some sites. Wood (2000) also noticed that some of these earth oven features contained large amounts of friable broken clay. Experiments conducted by the Lago di Ledro Pile-Dwelling Museum in Italy determined that this is likely due to low quality (riverine) clay having been used as a casing when cooking food (Wood, 2000, p. 96).

WHY I BECAME INTERESTED IN EARTH OVENS

The type of earth oven that I focused on for my experiment were ones with rocks heated *in situ* since this is the type of oven I encountered during my field school experience in Ohio. Excavating these earth ovens made me curious about whether the size and depth of the oven was a reflection of its efficiency. I was interested in making my own ovens to get a better idea of the time and energy that was required for this widespread cooking technology. Of course, a large part of the reason I wanted to experiment with earth ovens had to do with my interest in food. Food is a big part of my life: where will I find it, how will I cook it, when will I eat it, how will it taste? I was excited by the idea of testing out a global cooking technology that has been important for human survival for thousands of years.

EXPERIMENT #1

Goals

The purpose of my experiment was to see how earth oven size and shape affected the cooking efficiency. The size and shape of the ovens as well as amount of FCR needed were primarily based on the ovens found at Ohio Hopewell sites such as Browns Bottom #1, Lady's Run, and Balthaser Home Site which

| | diameter (cm) | Depth (cm) | Feature Volume (m ³) | FCR (kg) Attempted | FCR (kg) Actual |
|---------|---------------|------------|----------------------------------|--------------------|-----------------|
| Oven 1 | 75 | 50 | 0.198 | 80 | 79.38 |
| Oven 2 | 75 | 100 | 0.397 | 160 | 75.58 |
| Oven 3 | 150 | 50 | 0.795 | 227 | 228.16 |
| Oven 4a | 150 | 100 | 1.590 | 454 | 236.32 |
| Oven 4b | 150 | 100 | 1.590 | 454 | 139.25 |

As noted in the methods section, we were, in some cases, unable to fit in the amount of rock we had planned. This is what is represented in the “FCR (kg) Actual” column.



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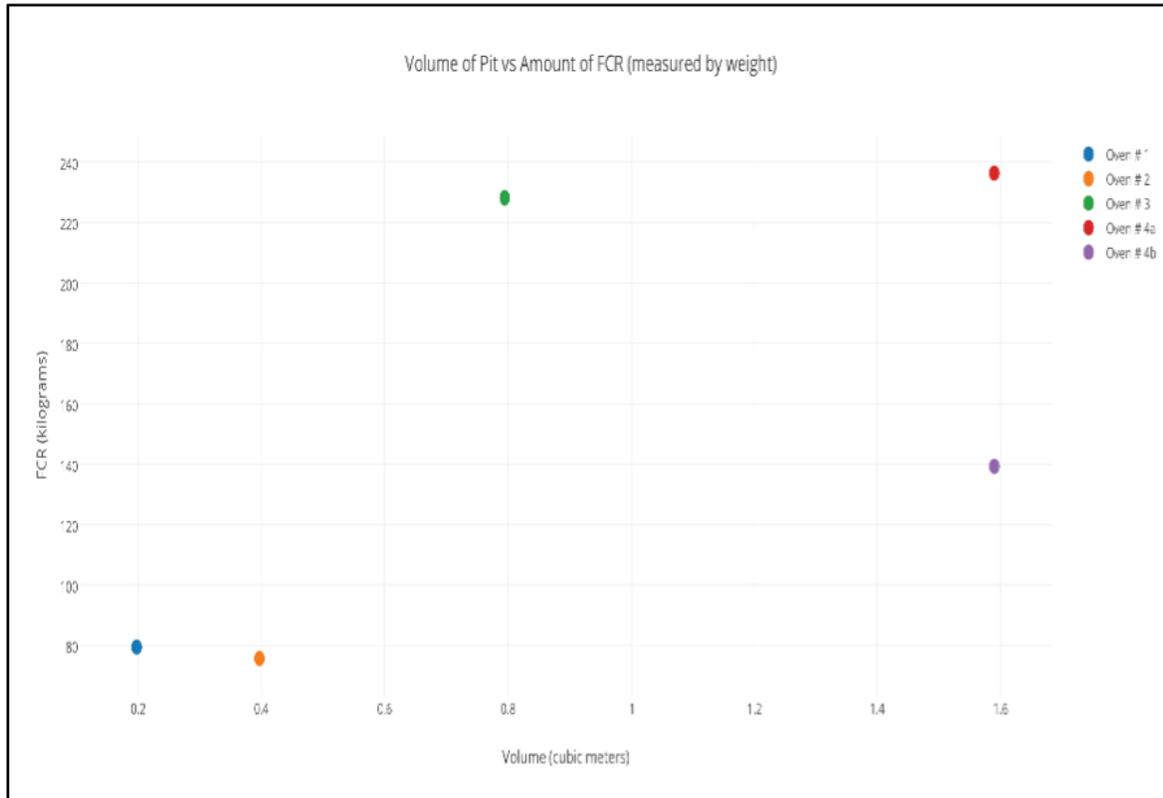


Figure 3. Experimental earth ovens.

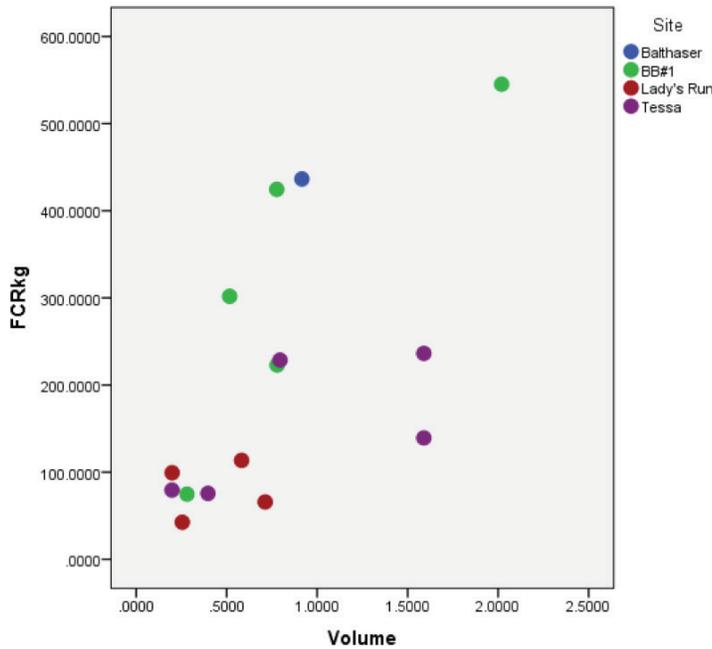


Figure 4. Experimental earth ovens.



Figure 5. (From left to right) Stephen Hanrahan, Sydney Snyder, and Sam Miller digging what would become earth ovens #3 and #4 (150cm wide/50 cm deep and 150cm wide/100cm deep respectively).

had about 404 kg of FCR per cubic meter (Table 1 and Figures 1 and 2). Plans for the experimental ovens can be found in Table 2 and volume to FCR comparisons can be seen in Figures 2 and 3). Below you will find the observations I made during and after the experiment.

Methods

The first experiment ran from September through December of 2015. The first step for my research was to gather all the necessary materials and find a place where I would be able to dig large holes and make fires. The latter was surprisingly easy since I had a friend whose family owned a large plot of land they were not going to use for another few months. The former proved more difficult since I needed to find various types of rocks while not actually knowing anything about geology. The SUNY Geneseo Geology Department gave me suggestions for places to find limestone, and Dr. Pacheco described a place nearby Leicester, NY where I could find igneous, metamorphic, possibly sandstone in a recently exposed glacial drift deposit. Various local Geneseo residents contributed firewood from their properties for the experiment.



Figure 6. Fire burning prior to rocks being inserted into earth oven #4a (150cm wide/100cm deep).

I assembled a team and we started by digging the first hole 75 centimeters in diameter and 50 centimeters deep (Figure 5). Once the hole was dug and measured, we gathered nearby twigs and measured their volume in a cardboard box. We started the fire with these twigs and loose-leaf paper which we placed in the bottom center of the pit (example of the fire in Figure 6). After letting the fire burn for about 20 minutes, I began weighing rocks and dropping them into the fire (Figure 7). I added them gradually every

few minutes until there were about 80 kilograms of rocks (53 kilograms limestone and 26 kilograms igneous) in the pit. We continued to build up the fire throughout the rock-adding process, and added to the fire for about an hour after adding the rocks while we prepared the food.



Figure 7. Fire burning after rocks have been inserted into earth oven #3 (150cm wide/50cm deep).



Figure 8. Food wrapped in collard greens set on top of the heated rocks in earth oven #1 (75cm wide/50cm deep). Embers can still be seen glowing beneath the rocks. Rocks around the edge of the pit were placed in order to prevent the fire from spreading to the outside of the pit and were not used in this experiment.

On the way out to the site, I bought 2 lbs. of boneless beef chuck roast, 2 lbs. of baking potatoes, and 2 lbs. of sweet potatoes at a local Wegmans. While the fire continued to burn, we wrapped the meat and potatoes in collard greens and secured them with twine. Once the fire had died down to embers (about an hour after rocks had been inserted), we placed the wrapped food onto the hot rocks and covered the hole with dirt (Figure 8). The thermocouple (pictured in Figure 9) which had been resting on the side of the oven gave a reading of 220 degrees Fahrenheit.



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Figure 9. Thermocouple reading for third attempt at earth oven #2 (75cm wide/100cm deep).

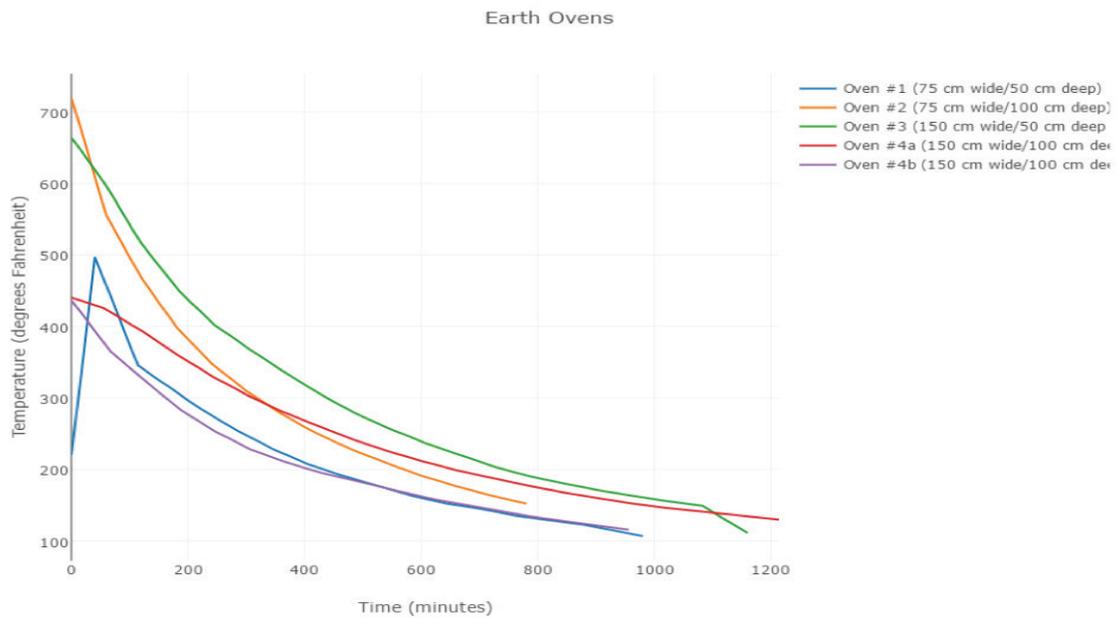


Figure 10. Temperature vs time of each earth oven.



Figure 11. Cooked beef chuck roast from earth oven #1 demonstrating the result of slow cooking on meat.



Figure 12. Burnt walls as a result of firing earth oven #1 (75cm wide/50cm deep). Picture was taken after clearing out the food and rocks and digging the hole down to 100cm in preparation for earth oven #2.



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Table 3
Quantitative Data of Resources Used and Temperatures Achieved

| | Amount of wood* (cm3) | Amount of Rocks** (kg) | Duration of fire before adding rocks (minutes) | Duration of fire*** (minutes) | Highest recorded temperature (degrees Fahrenheit) | Length of time above 200 degrees Fahrenheit (minutes) |
|---------|-----------------------|------------------------|--|-------------------------------|---|---|
| Oven 1 | 317,331.054 | 80 | ≈ 20 | ≈ 120 | 497 | ≈ 240 |
| Oven 2 | 464,708.072 | 73 | ≈ 60 | ≈ 130 | 719.1 | ≈ 870 |
| Oven 3 | 348,531.054 | 228 | ≈ 50 | ≈ 150 | 663.7 | ≈ 720 |
| Oven 4a | 402,308.072 | 236 | ≈ 25 | ≈ 60 | 440 | ≈ 600 |
| Oven 4b | 557,485.09 | 139 | ≈ 60s | ≈ 120 | 436.1 | ≈ 397 |

*Wood was measured in 2 boxes (Box A=84,977.018 cm3 and Box B= 31,200 cm3). Box B was used for measuring twigs while box A was used for measuring larger pieces of wood.

**Rocks represent a mix of igneous, limestone, and sandstone

***Duration of fire was measured from when the fire was started until the hole was covered

This worried us as this temperature seemed much too low for cooking the meat and potatoes. Once the hole was filled, I pulled out the thermocouple and put it into the center of the oven, wedged between rocks. This gave a reading of 497 degrees Fahrenheit, a temperature which seemed more feasible for cooking the food. I left the thermocouple in place and unplugged the reader so that all future readings would come from the same part of the oven. I stayed with the earth oven overnight in order to record the thermocouple readings every hour. A graph of all the earth oven readings from experiment #1 is presented in Figure 10. The oven stayed above 200 degrees Fahrenheit for 6 hours. After 16 hours and 20 minutes the temperature in the oven had dropped to 106.2 degrees Fahrenheit at which point we dug out the food (quantitative data regarding fuel used, oven temperature, FCR, and burn time for each oven can be viewed in Table 3). The food was cooked all the way through and had a wonderful earthy flavor. The meat, despite being wrapped in collards, was quite dirty, but we added salt and enjoyed it (Figure 11). It had that wonderful melt-in-your-mouth quality only achieved by slow cooking. The potatoes were soft and also had an earthy, smoky flavor.

Table 4
Experimental Ovens

| | Reusable Igneous | Reusable Limestone | Percentage Reusable |
|---------------|------------------|--------------------|---------------------|
| Earth Oven 1 | 100% | 96% | 97% |
| Earth Oven 3 | 91% | 93% | 91% |
| Earth Oven 4a | 98% | 86% | 94% |

We then removed the rocks from the pit. Many of them had cracked. About 96% of the limestone was not cracked beyond 15 centimeters in diameter, a size

Heisinger (2015) determined to still be reusable. All 100% of the igneous was reusable (Table 4). This can be compared to the FCR recovered in Hopewell ovens seen in Table 5; one can see that the rocks are incredibly resilient and did not break too much during the experimental cooking process. This can be seen in a few of the Hopewell pits as well but in many others, almost none of the rock would have been reusable in another oven.

Table 5
Hopewell Ovens

| Site | Feature # | Percentage Reusable |
|------------------|-----------|---------------------|
| Browns Bottom #1 | 35 | 11% |
| Browns Bottom #1 | 38 | 12% |
| Browns Bottom #1 | 39 | 14% |
| Browns Bottom #1 | 228 | 53% |
| Browns Bottom #1 | 237 | 33% |
| Browns Bottom #1 | 246 | 80% |
| Browns Bottom #1 | 247 | 20% |
| Browns Bottom #1 | 308 | 30% |
| Lady's Run | 348B | 52% |
| Lady's Run | 349 | 43% |
| Lady's Run | 401 | 6% |
| Lady's Run | 412 | 53% |
| Lady's Run | 416 | 40% |

After removing the rocks, we dug the pit down another 50 centimeters so that we could use it for our second oven which would be 75 centimeters in diameter and 100 centimeters deep. Upon clearing out the pit, we noticed the walls had been thoroughly burnt as demonstrated by Figure 12.

The first attempt at earth oven #2 failed. We managed to get the fire started in the pit, but it was much more difficult since there was not nearly as much oxygen flow. We let the fire burn for 35 minutes be-



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fore we began to add rocks. Our goal was to get 160 kilograms of rocks into the fire, since the volume of this oven was twice that of the first oven. We only managed to put 62 kilograms of rocks (40 kilograms limestone, 18 kilograms igneous, 4 kilograms sandstone) into the pit before the flames were smothered and could not be revived.

The second attempt we made at earth oven #2 had been a day after it rained. We scraped the bottom of the pit to remove the mud, but because of the dampness of the twigs and the lack of airflow at the bottom of the pit, we were unable to start a fire. We decided to make one final attempt at earth oven #2 before declaring it unusable. Our final attempt was a surprising success. We struggled to get the fire started but this time we let it burn for an hour before we started adding rocks. We managed to put 73 kilograms of rocks (all igneous) into the hole. We added the rocks slowly over the course of an hour so that the fire would have time to rise again after each insertion. It was still not possible to get to 160 kilograms of rocks, but we decided to cover the oven and measure the temperature to see if it would still reach temperatures high enough for cooking. After the hole was covered and the thermocouple was inserted, we waited for the first reading. The thermocouple stopped rising at 718.9 degrees Fahrenheit. This time the oven stayed above 200 degrees for 9 hours and it was another 4 hours before it dropped to 151.9 degrees Fahrenheit. On this occasion, we did not cook any food in the pit so we did not dig it back up.



Figure 13. Food wrapped in collard greens and placed within broken pots. Food was placed into earth oven #3 (150cm wide/50cm deep).

The next pit we dug was a few feet away from the first one. This became earth oven #3, which was 150 cen-

timeters in diameter and 50 centimeters deep. We followed the same process as for the first earth oven. We built a fire at the bottom of the pit starting with loose-leaf paper and twigs, then let the fire burn for 50 minutes before adding 228 kilograms of rocks (157 kilograms igneous and 71 kilograms of limestone) to the fire. We could hear the rocks cracking from the heat; one rock cracked and popped right out of the pit. We let the fire burn for another 29 minutes before adding the food. We cooked sweet potatoes, skirt steak, chayote squash, rutabaga, yuca, and sweet corn. We decided that this time we would cook some of the food in broken pottery since broken pottery is often recovered from Ohio Hopewell earth ovens during excavation. I bought four ceramic, red, flower pots and we cracked them in half vertically with a shovel. We then cocooned some of the food in the flower pots and left some food outside the flower pots (Figure 13). All the food, regardless of whether or not it went into a flower pot, was wrapped in collard greens except for the corn which was deposited without being shucked. This is the list of food in earth oven #3:

- 2 sweet potatoes went into a flower pot, 6 sweet potatoes did not
- 1 one lb. skirt steak went into a flower pot, 1 one lb. skirt steak did not
- 2 chayote squashes went into a flower pot, 1 did not
- 2 regular potatoes went into a flower pot
- 2 rutabagas were added to the oven (not in flower pots)
- 2 yuca were added to the oven (not in flower pots)
- 5 ears of sweet corn were added to the oven (not in flower pots)

We then filled the hole with dirt and took our first thermocouple reading of 663.7 degrees Fahrenheit. The oven stayed above 200 degrees for 12.5 hours and, after 19 hours and 47 minutes, had decreased to 110.7 degrees Fahrenheit at which point we dug up the food. While all of the meat was cooked through (somehow still pleasantly pink on the inside despite cooking for 19 hours), the pieces that had been placed within the flowerpots were cooked more evenly and had fewer charred edges. The same was true for the



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potatoes. The corn that was closer to the center of the oven was half charred on the face down side but the rest was edible and delicious (Figure 14). The corn that was placed on the outer edge of the oven was not at all charred and was tasty. The chayote squash, yucca, and rutabaga were all cooked nicely but none of us were especially impressed with how they tasted (none of us had ever tried these foods before).



Figure 14. Corn extracted from earth oven #3 (150cm wide/50cm deep). Example of corn from closer to the center of the oven that got burned on the side that lay against the hot rocks.

After clearing out the rocks and weighing them, I found 91% of the igneous to be reusable and only 90% of the limestone to be reusable. Again, there was a very high percentage of rock that was reusable. This remained a consistent trend for all of the experimental ovens from which the rocks were extracted afterwards.

The pit that had been used for earth oven #3 was then dug down another 50 centimeters to create earth oven #4a (150 centimeters in diameter and 100 centimeters deep). I refer to this oven as #4a to distinguish between the two times we experimented in the hole with these dimensions.

With earth oven #4a, we experienced a similar problem to the issues with earth oven #2. For one thing, the ground was very clayey making it very difficult to dig. It was also more difficult to maintain airflow now that the pit was deeper. The fire required constant attention and fanning. Since it started to driz-

zle, we only let the fire burn for about 25 minutes before adding rocks since we were afraid the rain would get worse. We inserted 236 kilograms (166 kilograms igneous and 70 kilograms of limestone) of rocks but the fire was not reaching through to the top layer of rocks, and the rocks seemed to be smothering the flames. Still rushing to beat the rain, we placed the food. We cooked 12 baking potatoes (10 wrapped in collard greens, 2 not wrapped since we ran out of collards). The 2 non-wrapped potatoes went into a flower pot along with 2 lbs. of chuck roast wrapped in collard greens. When we covered the hole we got our first thermocouple reading of 440 degrees Fahrenheit. We were slightly disappointed by the low temperature but not too surprised since the fire did not burn for very long and the top layer of rocks did not get very much fire exposure.

In the morning, when we uncovered the pit and dug out the food, we were greeted by many uncooked potatoes. The meat, while it had the texture of fully cooked meat, was much pinker on the inside than the meat in ovens #1 and #3. We decided that this oven did not seem to work very well but thought it was more likely a reflection of our rushed fire in effort to avoid rain rather than the size or shape of the oven.

After clearing out the rocks, I determined 98% of the igneous to be reusable and 85% of the limestone to be reusable. We decided to try the oven again to see if we could reach a higher temperature with a longer fire and fewer rocks. For our second attempt, we let the fire burn for about an hour before we began adding rocks. We managed to put in 139 kilograms of rocks (78 kilograms igneous and 61 kilograms of limestone) without compromising the fire. For oven #4b, we did not cook any food so we covered up the hole after the fire had burned for a total of about 2 hours. The first thermocouple reading was 436.1 degrees Fahrenheit, even lower than our first attempt at oven #4. The temperature of oven #4a also stayed above 200 degrees Fahrenheit for significantly longer than oven #4b. Since we did not cook any food in oven #4b, we did not dig it up or count the rocks.

Conclusions

Both the quantitative data from the ovens as well as the qualitative data from observations provided vital



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information about making earth ovens. My ultimate goal of producing efficiency data determined by temperature versus time showed an interesting trend. As shown in Figure 10, all the ovens followed similar cool-down rates despite all starting at different temperatures.

Second to note is the effort that goes into making an earth oven. While gathering rocks and wood did not present a particular challenge, digging the holes took considerable effort, even with the steel shovels of our time. The deeper the hole, the harder it became to dig. After getting below about 50 centimeters below the surface, the ground became significantly more clayey and difficult to move. This was observed during the excavation in Ohio as well.

My team and I also noticed that fires were harder to sustain in the deeper ovens, presumably due to lack of airflow. Constant fanning and attention was required to make sure the fires in the deeper ovens did not burn out whereas the shallower ovens required little attention to maintain. Earth oven #2 was the only deep oven that was successful in reaching and maintaining cooking temperatures. As both attempts at earth oven #4 failed to reach or maintain sufficient temperatures, future research could reveal that the amount of rock may have played a role in the oven's inability to sustain cooking temperatures. As seen in Table 2, earth oven #2 received an amount of rocks proportional to the volume of the oven, whereas earth oven #4a and #4b did not. It is important to mention that our original FCR goal for earth oven #4 would have matched the volume to FCR ratio of Hopewell ovens, but the increased depth made it impossible to insert the necessary amount of rocks. I did, however, fit my previously estimated number into the shallower ovens without any problems. Based on my method of calculation, I should have been able to fit twice the weight of rocks into the deeper ovens than their shallower counterparts. Because the ovens were so narrow, it was impossible to fit the estimated number of rocks without smothering the fire.

It is still unclear exactly how much the shape and size limit the usability of the oven. Based on the struggle my team and I faced digging and maintaining the deeper ovens both from clayey soil and lack of air flow, it makes more sense to expand an earth oven's width before making it deeper. By doing this, more

would be gained from significantly less effort. I made an early assumption that the amount of rocks needed for an earth oven must be proportional to the volume of the pit. After this research, I believe the relationship between volume and the amount of rock is still important, but not as clear-cut. A narrow pit with great depth would have a high volume, but would be difficult to dig, nearly impossible to maintain a fire, and would be unable to support enough rocks before the flames would be smothered. On the other hand, a shallow but wide oven of a high volume would be easy to dig, have good airflow for a fire, and since rocks would be spread out rather than piled up, more would be able to fit. Recently, I have continued this research and early results seem to indicate that when one is able to fit in a proportional number of rocks as determined by Hopewell earth oven remains, temperatures in ovens decline more slowly.

Our favorite part of the experiment was testing the food (and by testing, I mean eating). All the food cooked in earth ovens #1 and #3 was cooked perfectly despite very different cooking temperatures and length of time spent in the oven (shown in Table 3). But perhaps most interesting was the fact that the food that had been placed in flowerpots was cooked evenly all the way through as opposed to food placed directly on the rocks (corn in Figure 14). I placed the food into broken flower pots, because it is common in earth oven features to recover quantities of broken pottery. For example, 166 sherds were recovered from Feature 228, and 243 sherds were recovered from Feature 308 at Brown's Bottom #1.

A factor I did not take into consideration was how the length of the fire's burning time would affect the temperature of the oven. An interesting question for the future would be to investigate the direct relationship between the length of the fire burning and the heat capacity. While I did not specifically set up my original experiment to test this, one can see from Table 3 that the ovens in which I let fires burn for longer prior to adding rocks all resulted in much higher temperatures. Earth oven #2 burned for an hour before rocks were added. This is the oven that reached the highest temperature, 719 degrees Fahrenheit. Second was earth oven #3 in which the fire burned for 50 minutes before we added rocks and an initial temperature of 663 degrees was recorded. Ovens #1 and #4a only burned for 20 and 25 min-



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utes before rocks were added and only reached 497 and 440 degrees Fahrenheit. It is interesting to note that it seems that the length the fire burned overall or after rocks were added did not seem to have a significant impact on the temperature as almost all of the fires burned for nearly 2 hours total and varying temperatures were recorded.

Through examining the rock fracture data collected in this experiment, it is apparent that rocks fracture at a very low rate when exposed to high heat alone. When one compares the percentage of reusable rock I extracted from my ovens in Table 4 to the Hopewell ovens in Table 5, the trend is noticeably different. It is possible that the features with the higher percentage of reusable rock such as F 246 and F 228 from Brown's Bottom #1 and F 348b and F 412 from Lady's Run should be interpreted as being relatively untouched earth ovens whereas the other features may have been ovens later used primarily for refuse from earth ovens that were to be used again. While I find this to be the most likely explanation, I think that it would also be interesting to explore the possibility that the ovens with lower rates of rock reusability may have utilized a water boiling technique as well. As I have discussed earlier, research performed by Graesch et al. (2014) shows that rapid cooling of heated rocks results in higher rates of rock fracture than the heating process alone. Had the Hopewell been pouring water into some of their earth ovens but not others, a highly varied rate of rock fracture, such as one can see in Table 5, would likely be observed. Ultimately, this would be hard to prove since evidence of using the water boiling technique would not be preserved in the archaeological record.

As I discussed earlier, an important aspect of earth ovens are who made them and why. Thoms (Thoms 2008; Thoms 2009; Black and Thoms 2014) suggests

that earth ovens were used primarily for special occasions of bulk food processing, as a specialized method of making complex carbohydrates digestible, and as a way to conserve fuel sources. While these explanations seem to apply in the Southwest, they do not apply to the Ohio Hopewell. They inhabited a region of the Ohio Valley rich with wood fuel. Their ovens were also much smaller than those described by Black et al. (1997), so they were less likely to have bulk processing as their primary function. There is also little evidence of complex carbohydrates being a staple of the Hopewell diet. Instead, I suggest that Wandsnider's (1997) argument for the purpose of pit cooking was a way of extracting the maximum nutritional value of food high in fat and lipids, as it is most applicable to the Hopewell. Since evidence of different sized earth ovens is found worldwide in a wide variety of environmental conditions with different resources available, I propose that different groups of people had different reasons for utilizing hot rock technology, adding credence to all arguments proposed for the purpose of pit cooking. I believe that more research into the connection between the creation of earth ovens and the subsistence of those who created them would provide us with a better understanding of the technology.

EXPERIMENT #2

Goals

Using the data and experience gathered from Experiment #1, I set up a new experiment to answer some questions I still had about earth ovens one year after the initial earth oven experiment. I decided to test whether or not temperatures reached and the rate of temperature decline could be predicted when changing a variable, particularly the amount of rock used. This test ran from September 2016 to February 2017.

Table 6

Experimental Ovens from Experiment #2

| Oven # | Amount of Rock (kg) | Initial Temperature Estimated (degrees Fahrenheit) | Initial Temperature Actual (degrees Fahrenheit) |
|-----------------------|---------------------|--|---|
| Oven #1.1 | 80 | 615 +/- 25 | 652 |
| Oven #1.2 | 40 | 615 +/- 25 | 621 |
| Oven #3.1 | 228 | 615 +/- 25 | 605 |
| Oven #3.2 (attempt 1) | 114 | 615 +/- 25 | 410 |
| Oven #3.2 (attempt 2) | 114 | 615 +/- 25 | 548 |



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Methods

I started by choosing what size ovens I would use. Because earth ovens #1 and #3 were the most efficient from Experiment #1, they were the obvious choices. I decided I would first create each earth oven with the same amount of rock as previously used (80 kilograms and 228 kilograms respectively, also noted on Tables 3 and Table 6). I would then test the ovens again with half the amount of rock.

I made temperature predictions for the initial reading from each oven based on the experimental ovens from the previous year. Since the duration of fire burning prior to adding rocks was the most important variable in regulating temperatures, I burned all fires for the same amount of time (one hour before adding rock, and one hour after adding rock). Therefore, initial temperature predictions for all of these experiments were the same (615 +/- 25 degrees Fahrenheit). Again, I measured the temperature every hour after the ovens were covered with dirt until the temperature was no longer viable for cooking.

For the experimental ovens containing half of the amount of rock proportional to volume, I used data from last year's ovens to predict how quickly (or slowly) the temperatures would decrease hour by hour. This was possible by looking at the ovens in which we fit all the rock we intended as well as the

ovens we could not fit as much rock. To visualize this, I overlapped the temperature versus time graphs of relevant ovens which I will present later case by case. My general prediction was that using less rock would mean that the temperature would decrease faster.

This time I knew to keep certain variables constant such as the amount of burn time before and after adding rocks as well as the amount of dirt cover; this was so that the amount of insulation would remain consistent. All ovens were covered in 250,000 cubic centimeters of dirt.

The first experimental oven we created was 75 centimeters wide and 50 centimeters deep, the same as earth oven #1. I will, however, refer to the new experiments performed with this oven size as earth oven #1.1 and #1.2 (earth oven #1.1 having the proper amount of rock per cubic centimeter and earth oven #1.2 being the experimental oven with half the proper amount of rock), so as not to be confused with previous experiments conducted. The oven was created the same way as in the previous experiments with rocks heated *in situ* and the first temperature being recorded after the dirt cover was completed. This oven contained the full 80 kilograms of rock which previous experimentation had shown was appropriate for the volume. I predicted that the oven temperature would reach a high of 600 +/- 25 degrees Fahrenheit. This is the same temperature I predicted for all ovens in this

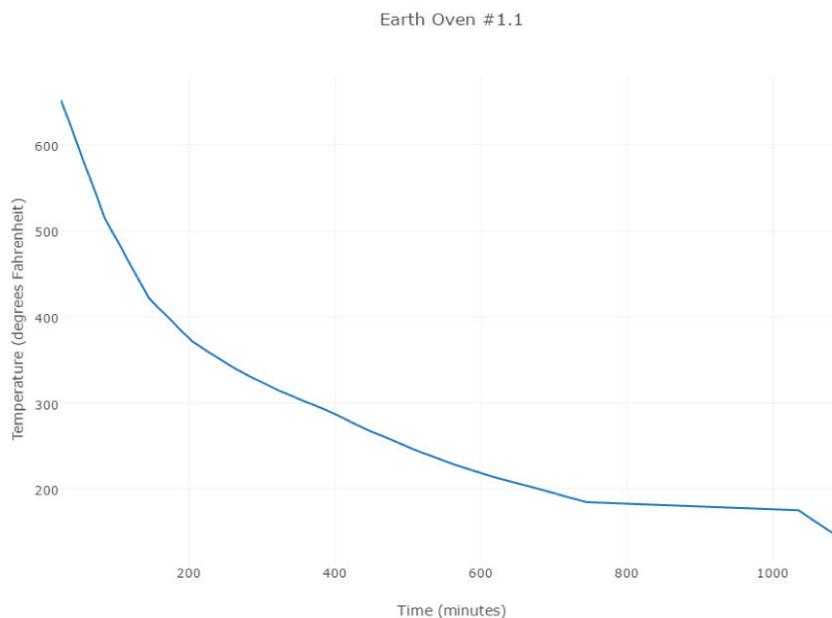


Figure 15. Temperature decrease over time for earth oven #1.1.



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experiment because I believe the most important determining factor for oven temperature is the amount of time the fire is kept going which I then kept consistent for each oven (data for initial temperatures can be found in Table 6). After burying the earth oven, I got a thermocouple reading of 652 degrees Fahrenheit, only about 25 degrees off from my prediction. I took the temperature every hour afterwards and the readings are recorded in Figure 15.

Earth oven #1.2 was constructed the same way as #1.1, except that half the amount of rock was inserted; additionally, prior to making the oven, I had made predictions not only for the initial temperature but also for what the temperature would be every hour afterwards. In order to make a these predictions, I overlapped the temperature versus time graphs of earth oven #1, #1.1, and #2. Both earth ovens #1 and #1.1 were important for making helping to make predictions since they were the same size as oven #1.2.

I decided to overlap earth oven #2 as well, because while the oven was twice as deep as earth oven #1, #1.1, and #1.2, we only managed to fit in 73 kilograms of rock. Therefore, I believed oven #2 would be demonstrative of what an oven with less rock would show for the rate of decrease in temperature. The overlap of these graphs can be seen in Figure 16. As shown in Figure 17, my temperature predictions

were very close to the actual temperature. I predicted that it would drop about 300 degrees within the first three hours, 100 degrees in the three hours following that, and that it would be down to about 200 degrees (and no longer cooking food) after a total of 9 hours.

Earth ovens #3.1 and #3.2 followed a similar process as #1.1 and #1.2, however, there were a few frustrating setbacks. Earth oven #3.1 went as planned for the most part. The hole was 150 centimeters wide and 50 centimeters deep. After letting the fire burn for an hour, we inserted 228 kilograms of rock and then kept the fire burning for another hour. Since that has been kept a constant for these ovens, they should all fall within approximately the same temperature range. After covering oven #3.1 with dirt, we got an initial reading of 605 degrees Fahrenheit. This is where things started getting strange. The position of the thermocouple shifted about a centimeter and the temperature reading started decreasingly rapidly—a 200 degree drop in less than 15 seconds—which is something that had never happened before, even when the thermocouple was moved slightly. Because of this, we were not able to get an hour by hour reading for the decrease in temperature for oven #3.1. Despite this issue, I decided it was not necessary to test this oven again since we were able to get the initial reading and I believed that I had enough data from previous experiments to predict what the

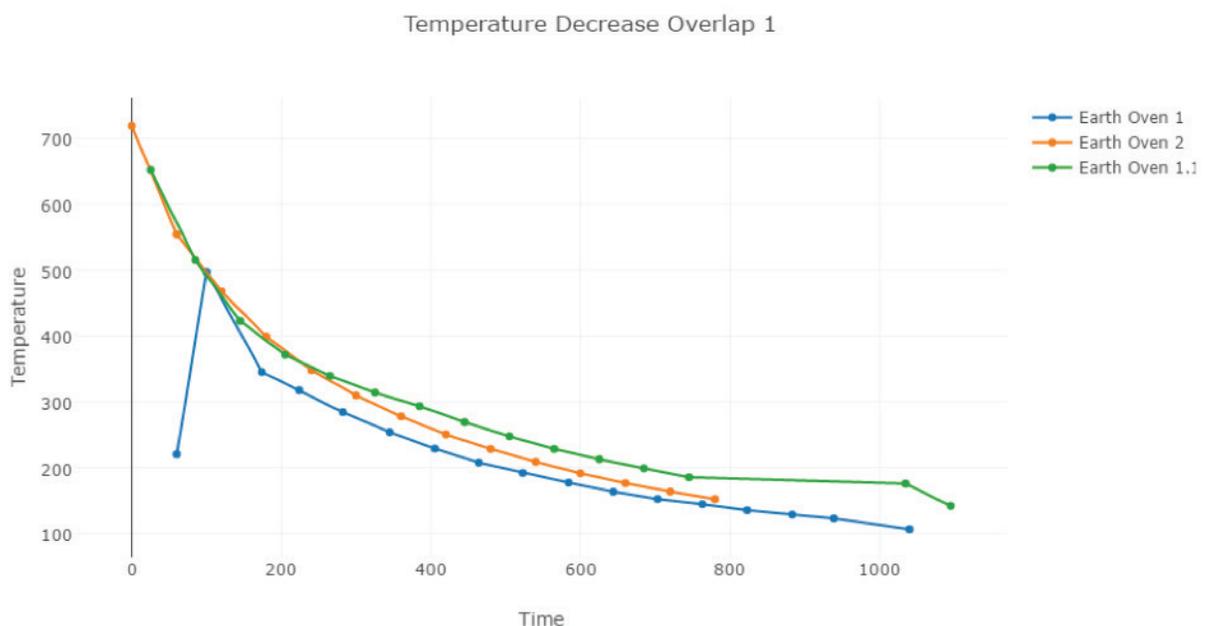


Figure 16. Temperature decrease overlap of earth ovens #1, #2, and #1.1



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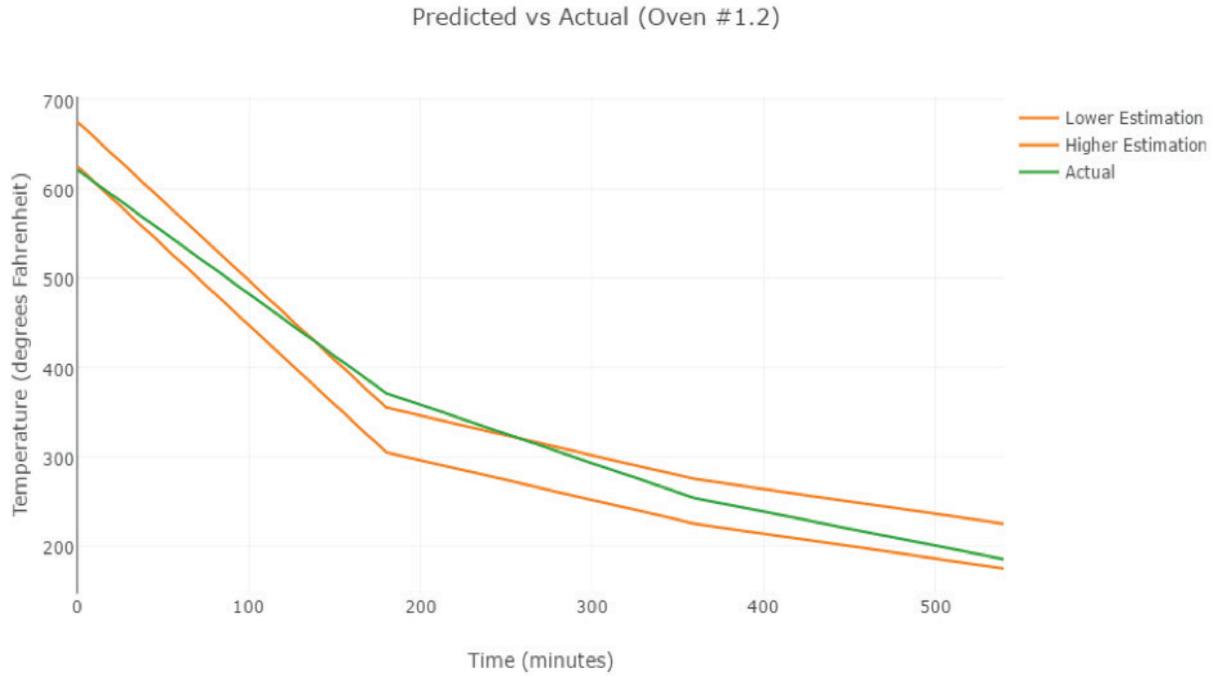


Figure 17. Predicted temperatures for earth oven #1.2 versus the actual outcome.

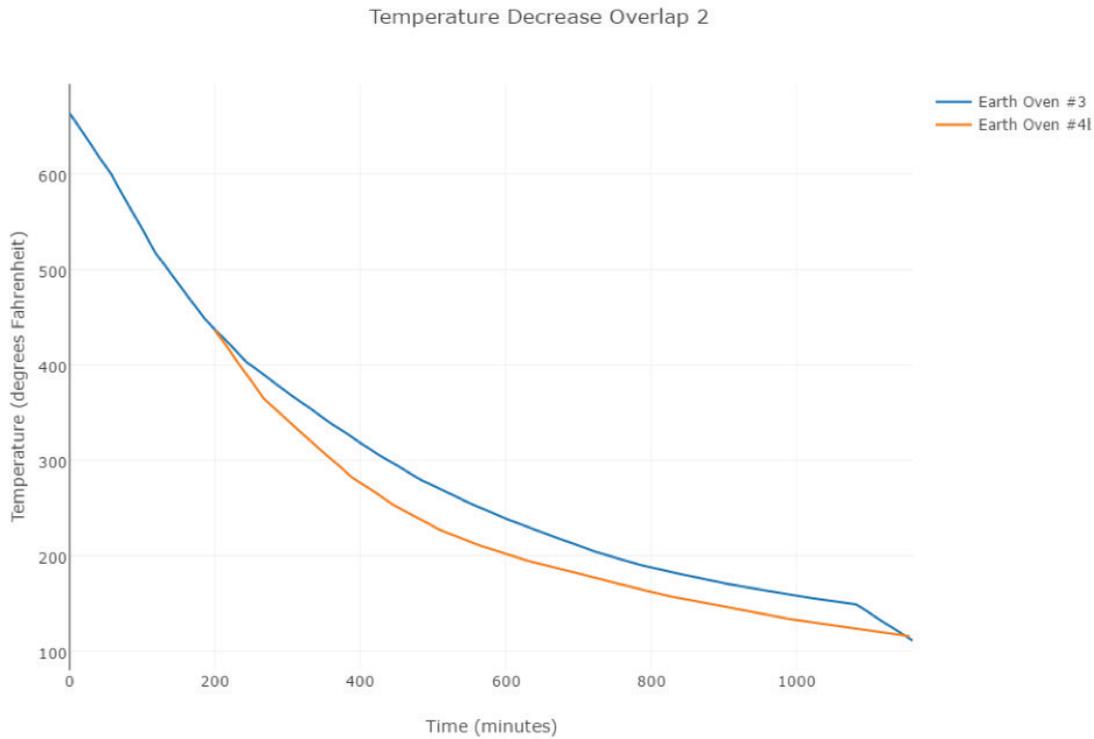


Figure 18. Temperature decrease overlap of earth ovens #3 and #4b.



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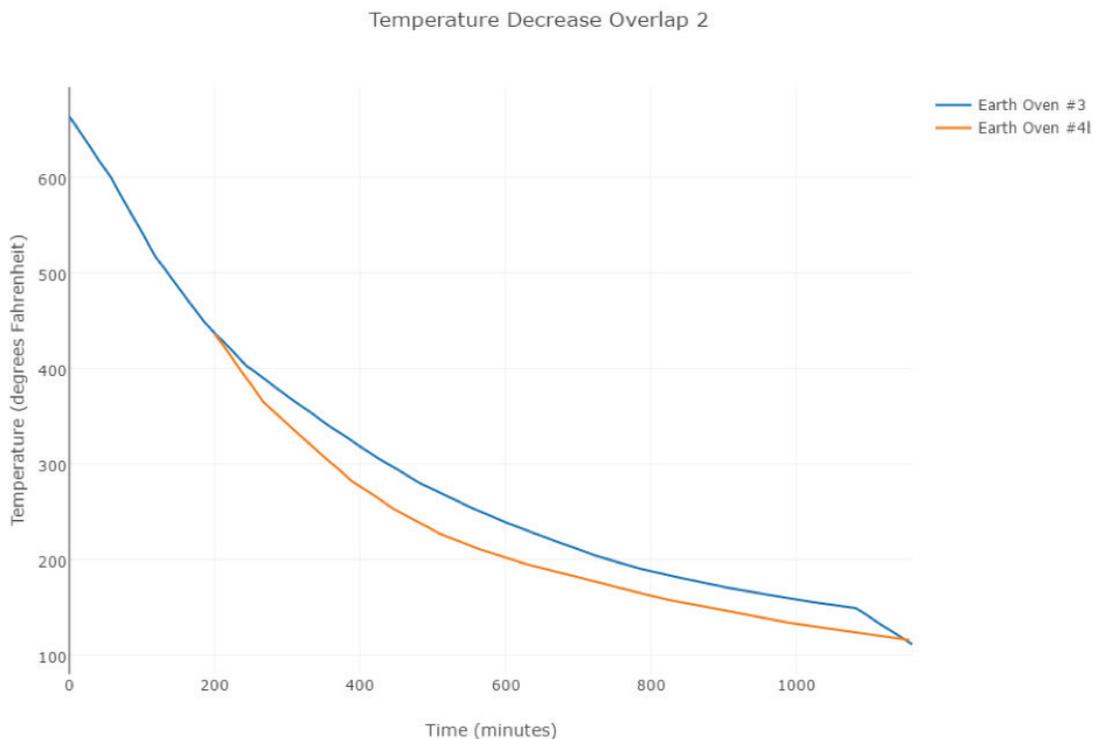


Figure 19. Predicted temperatures for earth oven #3.2 attempt #1.

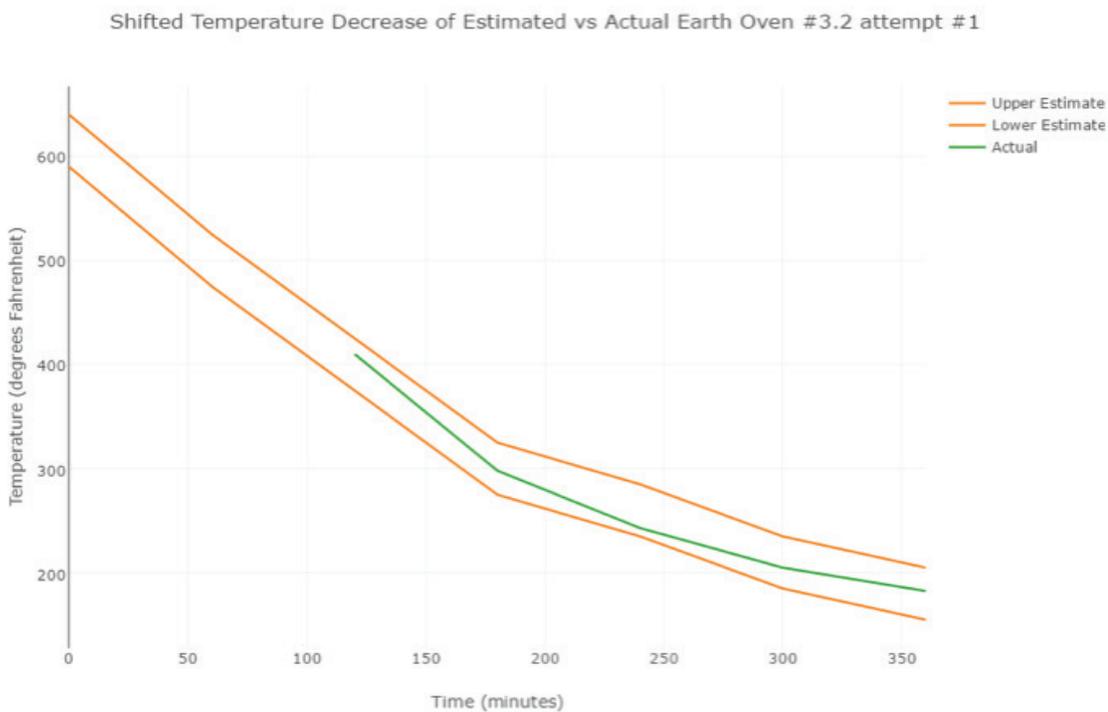


Figure 20. The actual outcome both original and adjusted for initial temperature difference



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decrease in temperature would be for an oven of the same size with half as much rock.

It was with oven #3.2 that we experienced the most difficulty. This oven was also 150 centimeters wide and 50 centimeters deep. I had made predictions about the rate at which the temperature would decrease by overlapping the temperature vs time graph of earth oven #3 and earth oven #4b (which we only were able to fit 139 kilograms of rock into). This graph can be found in Figure 18.

Everything was going as expected until we started to cover the hole with dirt. The temperature on the thermocouple was still rising (I stuck the thermocouple in the center of the pit while we filled the hole since it takes a while for the temperature reading to peak, that way I can get the initial reading as soon as the hole is covered) and had hit 400 degrees Fahrenheit when all of a sudden, it dropped to 250 degrees and kept dropping. After about 10 minutes of fiddling with the instrument and completing the hole, we managed to get a reading of 410 degrees Fahrenheit, much lower than the predicted temperature of 615 +/- 25 degrees that it should have been. I still recorded the temperature every hour, but knew that this experiment would need to be repeated and a new

thermocouple might need to be purchased. The interesting thing about the temperatures I recorded from this oven was that the predictions I had made for the rate of temperature decrease starting at 410 degrees matched up perfectly with the temperatures I recorded (Figures 19 and 20), meaning that I had still accurately predicted the rate of decrease in temperature, just from a different starting point. In my hour by hour predictions, I had estimated that by the time the oven reached 400 +/- 25 degrees Fahrenheit that it would drop to about 210 +/- 25 degrees Fahrenheit within three hours and two hours after that it would be close to 170 +/- 25 degrees. When the graph of the actual temperature decrease is shifted so that the actual starting point of 410 degrees Fahrenheit lines up with the 400 +/- degree Fahrenheit mark of my prediction, the rate of temperature decrease fits exactly within these parameters

After purchasing a new thermocouple rod, we attempted earth oven #3.2 again. This time we got an initial reading of 548 degrees Fahrenheit, a temperature that made much more sense, and one which did not dramatically drop at the slightest movement of the thermocouple. Hourly temperature decreases for this oven can be seen in Figure 21. My predictions remained the same from the first time I attempted this

Temperature Decrease Estimated vs Actual Earth Oven #3.2 attempt #2

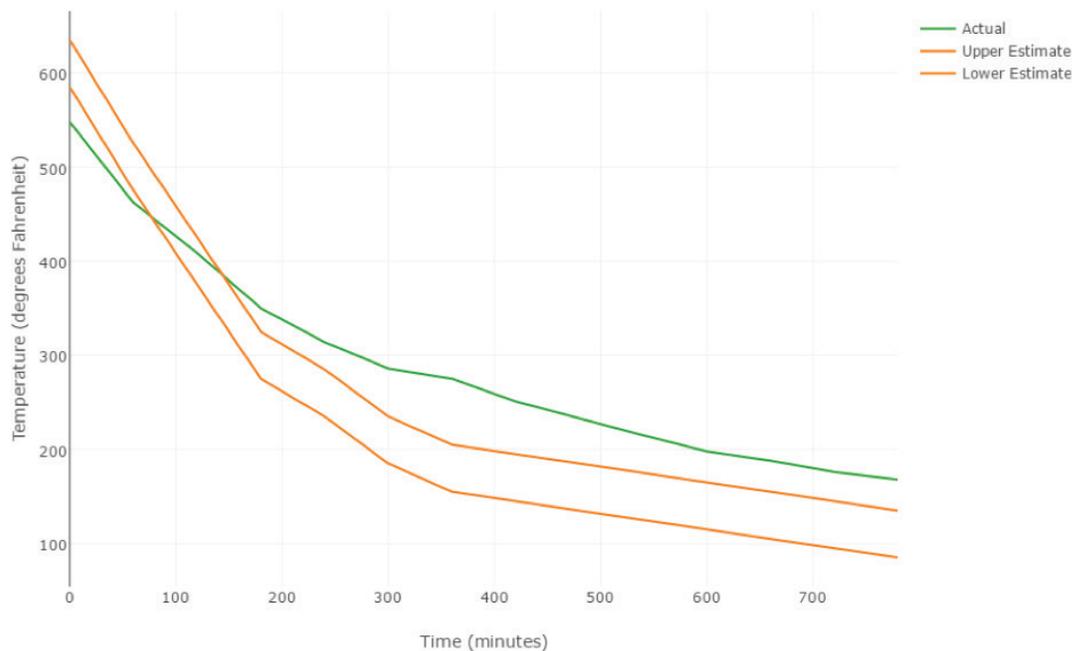


Figure 21. Predicted temperatures for earth oven #3.2 versus the actual outcome



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oven: 300 +/- 25 degrees within the first three hours, 180 +/- 25 degrees in the three hours following, and 150 +/- 25 degrees by hour 9. This time, the oven actually remained both hotter and lasted longer than I expected. Unlike oven #1.2 and the first attempt at oven #3.2, the actual rate of decrease in temperature did not fit neatly into the parameters I had predicted, even though it was very close.

You will notice that the predictions I made for the hourly temperature decrease for ovens #1.2 and #3.2 are not the same. This is because temperature predictions were made based on separate sets oven experimental ovens, ovens which corresponded directly with shape and volume of the ovens for which I was making the predictions. Because the temperature decrease was different in the narrower ovens from last year compared to the wider ones, my predictions were different between the two as well.

Conclusion

As shown in the predicted versus actual temperature graphs, the rate of temperature decrease was not only faster for the ovens when they had half the amount of, but it was also predictable to some degree. I think this is important since it could mean that one could potentially cook different foods with the knowledge that letting a fire burn for longer or adding less rock would consistently yield a hotter oven or an oven that decreases in temperature more quickly.

I do not think it is unreasonable to propose that prehistoric people would have been aware of how variables affected earth oven temperature and utilized this knowledge when cooking. While they would not have had tools to measure temperature to the exact degree, they would have realized, “hey, when I let the fire burn for a really long time and fill the hole with a ton of rocks, my meat burns. But when I do not burn the fire for as long or add so many rocks, my meat does not burn,” they would have realized the consequences of the above examinations in the quality of the cooked food.

Without testing specific foods in ovens with varying amount of rocks, it is hard to determine which ovens are most efficient for cooking which types of foods. However, I believe it is fair to presume that fiber-rich resources were likely cooked in ovens that required larger amounts of rock since these resources would

have need longer processing times in order to become edible. Since I already knew the average Hopewell oven from Brown’s Bottom, Lady’s Run, and Balthaser contained 404 kg of FCR per cubic meter of oven, I looked at the ratio of FCR to oven volume for individual ovens in order to guess which types of foods were cooked in which ovens (10). I eliminated the ovens that had been deconstructed prior to excavation in this analysis. Ovens with an above average ratio of FCR to volume such as F 246 and F 308 from Brown’s Bottom, F 416 from Lady’s Run, and F 11 from Balthaser, are all ovens in which starchy or fiber-rich resources may have been processed since the temperatures in these ovens would have remained hotter for longer periods of time. Ovens with a very low ratio of rock to volume, such as F 348b, F 349, and F 412 from Lady’s run, may have been used for processing foods such as meat, which do not require high temperatures to be maintained for long periods of time and therefore do not require as many rocks.

Table 7
Ratio of FCR to pit volume for Hopewell Earth Ovens

| Site | Feature # | Kg of FCR/ m ³ |
|------------------|-----------|---------------------------|
| Browns Bottom #1 | 228 | 286 |
| Browns Bottom #1 | 237 | 270 |
| Browns Bottom #1 | 246 | 583 |
| Browns Bottom #1 | 247 | 265 |
| Browns Bottom #1 | 308 | 546 |
| Lady’s Run | 348B | 167 |
| Lady’s Run | 349 | 92 |
| Lady’s Run | 412 | 195 |
| Lady’s Run | 416 | 499 |
| Balthaser | 11 | 476 |

This research gives new insight into how earth ovens work and how the variability between ovens found in the archaeological record might be reflective of what was being cooked in them or an attempt by prehistoric people to control oven temperatures.

I believe there is still a lot of work that could be done to give us a better understanding of earth ovens as a prehistoric cooking technology. As I have mentioned before, most of the studies done in the United States have been conducted in the Southwest and some have assumed that the results from those experiments are applicable to all earth ovens everywhere; I would argue, however, that the way earth ovens are made and the reasons for which they are created vary by region



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and are affected by resource availability, local fuel sources, and the culturally constructed ideas people have about food, its production, and its processing.

Instead of trying to apply one set of standards to all earth ovens, research should focus on ways in which we can understand ovens in a variable context. I believe my research meets this criteria as it not only presents a better understanding of creating an earth oven in the Eastern Woodlands (a region where earth ovens have not been extensively studied), but also demonstrates a new way of evaluating earth ovens and their properties.

ACKNOWLEDGEMENTS

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An Interview with Nicole Pero

Hometown:

Endicott, NY

Major:

English, Creative Writing

What have you been up to since graduating from Geneseo?

I've been working on small writing projects, catching up on my "to-be-read pile," and applying for jobs in the Binghamton area.

Why do you feel that GREAT Day is important?

I think that GREAT Day gives Geneseo students a place to showcase all of their hard work, and I think that sometimes it's easy to get caught up in deadlines and projects, so much so that you lose track of how much work you've actually gotten done. It's nice to see others appreciate your accomplishments.

What was your experience presenting your work at GREAT Day?

It was fun! I was very fortunate to be able to do research on a topic I really loved, so it was easy to engage the audience. It was a nice wrap-up for my time at Geneseo.

Searching for Sliders: Gender Representation in Video Games

Nicole Pero

Sponsored by Melanie Blood

ABSTRACT

How does the protagonist of a video game and their gender affect the player's experience? Is it really possible for players outside the gender binary to reach verisimilitude with their protagonists? These are the questions Pero will be trying to answer across many contemporary games.

Frankie was a blue-haired, generally made-up, and pump-wearing hero. They were a non-binary avatar I made in the game *Saint's Row 3*, and they had a largely butch, feminine look—tight leather pants, a wifebeater, and a denim jacket. Sometimes, they sported a set of bright magenta knuckle bandages for the aesthetic, and their voice was a rich, British baritone rumble. Cocky and sometimes goofy to a fault, they were the ideal avatar for me to explore the outlandish, absurd world of the game and play around with gender presentation at the same time. *Saint's Row 3* was one of the first games I experienced as a newly-christened PC gamer, and from there on out, I played plenty more games, but none of them really allowed me to put on a queer, gendered performance as much as the *Saint's Row* series.

Video games, as a genre of media, allow the player to experience a world that isn't their own and a situation they would otherwise never experience. The best way to pull in a player is to have 1. Interesting gameplay, 2. A well-written and immersive story, if applicable, and 3. a player character who is sympathetic to the player and onto whom the player can map themselves in the game world. I'm going to be focusing my research mainly on the last point of interest—the player character. For the purposes of making sure everyone is on the same page, I'll be delving into some gaming history to show where character creation has grown and changed over time.

Beginning in the mid-50's, games were largely used for computer research and military training (Strong,

2016). However, what we think of as video games weren't around until the late 1960s with the invention of the Odyssey, the first home videogame system. Before this time, video games were hard to code and produce, and they were difficult for the general public to access. With 1972 came *Pong*, which kick-started the arcade era; in *Pong*, there is no visible player character, and the players themselves are meant to be playing next to one another while controlling the joysticks on the very 1970s-looking yellow and dark wood-grain arcade machine. Later games like *Dig Dug* and *Pac-Man* have very recognizable, if diminutive, player characters who helped create a brand and drew players to their arcade machines. However, the genders of these player characters have often been hard to discern or just assumed to be male.

For example, *Metroid's* Samus Aran was assumed to be male because during the entirety of the game, she is encased in a bulky, red-yellow-and-green power suit while shooting down foes. In order for her gender to be revealed, the player must finish the game under a certain time, after which Samus either pulls off her helmet or pops out of the mechanical suit in a pink leotard/bikini and waves at the player, depending on your finish time. Whether or not Samus is a feminist icon is hotly disputed in the world of video games, some claiming that this player reward system downplays her status as a female character and is used mostly for shock value. Rupert Goodwins (1994) of *The Independent* claims: "The hero, one Samus Aran, is apparently female, although the Transformer-like suit she wears could just as easily contain a large cen-



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taped; it's hardly a breakthrough for feminism." While I would argue that she kicks ass and takes names throughout the game before the big reveal and should therefore be considered a powerful, feminist character, some would argue that her final appearance in the original arcade game cements her as gimmicky and for-the-male-gaze. Still, others argue that her perky wave confronts the oft-male player with his sexist assumptions. I think I sit somewhere in the middle, both critical of her over-sexualized appearance as a reward for the male player and supportive of her overall badassery and sassy "I-bet-you-didn't-expect-me" confrontation of the player.



Figure 1. *Metroid* (1986), an action-adventure video game created by Nintendo.

Alongside Samus, we have male game heroes like Nintendo's Jumpman AKA Mario, Bomberman, Pac-Man, Donkey Kong, Megaman, *Metal Gear*'s Solid Snake, Sonic the Hedgehog, *The Legend of Zelda*'s Link, and several others. This long list of male game heroes stems largely from the marketing of video games, which after the Video Game Crash of 1983 began marketing specifically to male children, beginning with the company Nintendo. Immediately before the video game crash, third-party game devel-



Figure 2. The evolution of Lara Croft, the protagonist of the *Tomb Raider* series.

opment was made legal in 1982, making it possible for individuals to produce cheap knock-offs of popular games and systems. These knock-offs and low-budget flops began flooding the market, causing gamers to steer clear of new games and systems. Therefore, when Nintendo moved its marketing elsewhere, they chose to market specifically to children, in the toy aisles of stores, which were completely separated by gender. Arbitrarily, Nintendo decided to market to boys instead of girls, and thus the gender divide in gaming was born (truTV, 2015). While many girls and women still played games and enjoyed them, the world of video games was much more hostile to women and girls who wanted to be included in the community. For example, one of the early North American advertisements for *The Legend of Zelda: Ocarina of Time* included the phrase "Willst thou get the girl? Or play like one?" (Stevenson, 2007). Advertisements like these, which were targeted at boys and outwardly excluded girls, served to reinforce the growing "boy's club" that was video gaming culture.

Much later, and with the advent of new gaming systems and more robust engines, we were introduced to *Tomb Raider*'s infamous Lara Croft, who came to be in the late 90s and was one of the first 3D-rendered game protagonists to reach gamer fame. She and her sharp polygon-shaped boobs are the first thing you think of when someone mentions the *Tomb Raider* franchise, though in recent years with the 2013 reboot, developer Square Enix endeavored to make her more palatable to a female gaming populace. Playing the original *Tomb Raider*, it is easy to see that her outward appearance and her story are centered on the male viewer as she jumps around crypts wielding



Figure 3. *Lara Croft* as depicted in *Tomb Raider* (2013) is less sexualized but more victimized than she was in the original 1996 game.



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dual pistols, generally destroying valuable archaeological sites and murdering local wildlife. Neo-imperialist themes aside, some have argued that her most recent reboot has taken her from sexy yet independent, to playing the role of the victim. Kellie Foxx-Gonzalez (2012) from *The Mary Sue* explains the ways in which the reboot victimizes Lara Croft, often with the threat of extreme violence, rape, and death:

Rosenberg [the head developer] argues that Lara Croft has not become the badass adventurer we all know and love yet, and furthermore, being a female protagonist, gamers (men) don't relate to her normally anyway, thus, she is a heroine to be protected instead of emulated or admired.

What this says about female protagonists like Lara Croft is they are encroaching so sinisterly on the male domain of video games that the only way for majority male gamers to accept them as protagonists is for them to either be sexually objectified or subject to sexual and bodily violence.



Figure 4. *Nier: Automata* (2017) furthers the idea that the only way male video game players will accept a female protagonist is if she is overly sexualized.

A lot of women's issues with being represented by busty, skimpy-clothes-wearing action girls like Lara Croft stem from ideas about the male gaze, often discussed in the context of film analysis. Feminist scholar and film analyst Laura Mulvey (1975) describes the male gaze as a situation in which men are situated as those who look, while women are bearers of that look. Mulvey (1975) says that "in their traditional exhibitionist role women are simultaneously looked at and displayed, with their appearance coded for strong visual and erotic impact so that they can be said to connote to-be-looked-at-ness" (p. 11). If we

are assuming a largely male audience for video games, we can put the male player in the position of the male protagonist in film who views the women of the film, as well as in the position of the camera itself. In many cases, the player themselves is made to control the camera angle of the game, and it can be manipulated to exploit and view places on even a female player character that are meant to be kept out of view. The women situated as early video game protagonists were largely made for the male gaze, because video game companies marketed largely to men and boys.

Women, as gamers, have been pushing the gaming industry in a more inclusive direction for decades. For example, Namco claims to originally have created *Pac-Man* with female players in mind. Creator Toru Iwatani says in an interview 30 years after *Pac-Man's* release, "Most arcade videogames of the time were violent and focused on the male player, so the game-centers became places frequented mainly by men. We decided to change that demographic by designing games that can appeal to women and thus to couples, therefore making game-centers desirable places to go on a date" (Purchase, 2017). Iwatani's focus on heterosexual couples as the default and the only kind of group to visit gaming centers serves to emphasize the heterosexism of the period. Why couldn't families be a demographic, as with later home gaming systems? This points clearly to an untapped market that existed in the 80's. And while *Pac-Man* himself exists as a yellow pizza-shaped blob, he is assumed to be gendered male. Despite assumptions, Namco found that they had a large player-base in women, and when they discovered that a couple of guys out in California were modding their arcade game so *Pac-Man* had lipstick and a fashionable mole, they decided to offer them employment. *Ms. Pac-Man* went on to be the "best-selling arcade game of all time" (*Video game history*, n.d.). Whether or not this is due to female players is unknown, but the assumption still exists.

Stepping away from issues of representation for a moment, these early console and PC game franchises often had a set protagonist because that made it easier for the game's developers to get the game out on time—having several playable characters adds double the time spent recording voice lines, rendering player models, creating textures for the aforementioned models, and inserting that player character into the existing game. Especially with the advent



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of 3D rendering (beginning with popular franchises like *Tomb Raider* and *The Legend of Zelda*), we began to see increased difficulty in creating immersive, expansive gaming worlds for exceedingly voracious players. Therefore, having a single, set player character is a way for developers to include an immersive, interesting story without involving too many player characters.



Figure 5. Official Artwork for *Grand Theft Auto V* (2013).

As for players who aren't white, cisgender male, able-bodied, straight, etc., the world of video games seems to exclude them entirely. How is a black man supposed to feel when the only representations of black men in gaming exist as gang members in the *Grand Theft Auto* series and as Michael Jordan-like sports titans? How about women who are subjected to over-sexed facsimiles like Lara Croft, Bayonetta, and Chun-Li? Trans people have to deal with absurd representations like Nintendo's Birdo and *Street Fighter's* Poison, the last of which was only included as trans in the game because U.S. audiences weren't interested in hitting/fighting "women," somehow implying that hitting/fighting a trans woman isn't fighting a "real" woman. For people who exist outside the "boy's club"



Figure 6. *Street Fighter V* (2016). Poison (left) is characterized as a transgender woman.



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that is video gaming culture, how do they identify with these mostly white, cis-male characters?

One game developer's answer to this question was to randomly generate the player character. In the survival/crafting game *Rust*, the development team recently decided to implement a randomized player character system. Rather than have every player start the game as a white male, they randomly assigned each player an avatar. The avatars were half male, half female, and included a variety of races, face shapes, heights, and penis sizes for male characters. This randomized avatar was assigned to your game client ID, permanently tying that avatar to your game. For some players, this was a step in the right direction—if the game itself is procedurally generated, why shouldn't your avatar also be? Some male players didn't like the new feature, claiming that they wanted to be able to identify with their player character and couldn't do so as a female avatar. Head developer Garry Newman (2016) said that "our female players seem more pragmatic. They point out that they've already been playing *Rust* as men for the past two years. Some have got in touch to thank us. Mostly they see it as no big deal." The game has also seen significant push-back from transgender folks who dislike being made to play as a gender they haven't chosen. However, the development team stands by their decision and claims that the change isn't meant to harm trans players, but rather to allow them to focus on the gameplay for *Rust* rather than developing their own character creation engine.

It can be argued that this difference between trans players and presumably cis female players outlines a stark divide between two arguments: on one hand, you could argue that people other than cis men have been successfully identifying with mostly male game protagonists for ages, and that the player character seems not to matter to the gaming experience. On the other, it can also be argued that the player character absolutely does matter, because trans players have expressed difficulty identifying with a gendered body that they haven't chosen. It's difficult to decide whose argument is more valid, but I can see the way it works for both sides.

Trans people have used video games to explore gender and its possibilities in a safe, user-friendly space. In her article titled "Gaming is my safe space: Gen-

der options are important for the transgender community,” Jessica Janiuk (2017) describes the way she has used games to explore gender identity as a trans woman, and one of the most helpful methods of doing that in video games is through character creation. She says:

Many of us that are trans* identified or are questioning our gender identity find solace in the virtual world. Games like *The Elder Scrolls*, *World of Warcraft*, *Mass Effect*, *Dragon Age*, *Second Life*, and any other game that allows character creation with gender choice give us the opportunity to be seen as and interact with the world as the gender to which we identify. (Janiuk, 2017)

And for people in other marginalized communities who want to enjoy games and explore virtual worlds in the bodies and characters they feel most comfortable with, character creation seems to be the next step in representation.

Character creation in games didn't really begin with video games, but rather, it began in the *Dungeons & Dragons* community, along with other tabletop role-playing games like it. For people who aren't familiar with the endless possibilities of *Dungeons & Dragons*, the game allows the player to create a character on their own, choosing from any number of fantasy races, classes, and abilities. The player is able to customize their player character down to their strength, luck, eye color, height, and weaknesses. Having recently gotten into the *D&D* world, I have a character nicknamed Grumbles: he's 4'6", he's non-verbal, has dark, freckled skin, and he's mourning his dead husband while trying to escape the reach of an angry dwarven king. None of these qualities stop Grumbles from whacking down golems with his war-axe or solving puzzles with help from his fellow travelers. In the world of *D&D*, almost any character combination is possible, and the reins for that character belong to the player alone. In the hands of a semi-competent, socially conscious Dungeon Master, any rag-tag team can come together and face down huge obstacles.

When role-playing games (RPGs) moved from the table-top to the computer screen with games like *Pool of Radiance* in 1988, where you had the ability to cus-

tomize your character's stats like strength, wisdom, and luck, they took the spirit of customization and creativity with them. Slowly, RPGs became a video game genre in their own right, and the next step for game developers was to make the player character, the actual avatar which interacts with the game environment, customizable. Some of the first games to implement customization included a series of pre-set choices: gender (male or female), race (white, black, somewhere in-between), and maybe a couple different haircuts per gender. Later RPGs from companies like BioWare and Bethesda encourage the player to choose from several character classes, histories, haircuts/colors, eye colors/shapes, facial features, etc. and alter the baseline player character. For the most part, this model is where we're at right now, and where most RPGs put their energy. However, some games include spectrums from one feature to another; for example, in some games there are sliding scales of eye size, eye tilt, and distance between eyes. These sliding scales are called "sliders," and the possibility for minute, precise changes to character avatars are immense. Some character creators nowadays are so nuanced that you can create an avatar that looks eerily similar to yourself. Essentially, this level of similarity is the goal, and its purpose is to help the player in mapping themselves onto the player character, so that they can successfully immerse themselves in the gaming environment and, ideally, buy into the franchise. Some players may also choose to create ideal or fantasy versions of themselves, essentially making a body they wish they could inhabit.

It is no coincidence that the slider takes the form of a spectrum—similar to the way feminists think of gender as more of a spectrum than a binary, where people can exist anywhere on the spectrum or even outside it, sliders in video games allow a spectrum of identities into the world of the game. While some games' sliders are limited to the physical, games like *Dark Souls* include a slider for "hormones," which allows the player character to exist on a spectrum of masculine to feminine. The slider exists as a site of opposition for gamers who have been made to choose between binary genders and identities for so long. The purpose of the slider is to increase the diversity of a game by allowing any number of choices for the player to customize their avatar, hopefully representing the diversity of gamers and their experiences.



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Some of the cooler slider mechanics I've seen have been in RPGs and titles from triple-A studios. For example, BioWare's most recent game in their *Dragon Age* franchise allows the player to add or remove an Adam's apple to the player character. The game also features an X/Y axis slider system, which allows the player to tweak physical features on another plane than the standard slider. My favorite gender-defying game, *Saint's Row 3*, includes a slider called "sex appeal," which alters either the player character's bulge size or breast size, depending on the avatar's binary gender. While this game does make the player choose either a male or female gender, the player can make an androgynous or non-binary character using the game's sliders. In the *Saint's Row* franchise, you have the choice of hairstyles from both genders, and all clothing options are available for every character. There are a few pre-recorded character voices for each gender, and you can choose from any of those when finalizing your "Saint." In *Saint's Row 4*, you can change the pitch of the pre-recorded voice, further customizing it to fit your avatar and their identity. Largely, games with character creation engines allow the queer player, the person of color, the non-white or non-cisgender player to engage with the in-game world in a much more meaningful and enriching way. It also allows the white, cis-male player to inhabit the world of the game in a body that is not his own, so that he can learn to identify with others.

Moving forward, though, how can we improve the representation of non-white, non-cisgender, and non-straight players in video games? Video game modders have begun to solve this problem. "Modding" is the process of altering a game's code to include the kinds of mechanics or gameplay the player wants to see. For example, many *The Elder Scrolls V: Skyrim* modders have made modifications to the game which allow them to add entire maps, questlines, and enemies to the game. In the world of character creation, modders are constantly releasing new free mods which alter the character creation engine: some include more androgynous hairstyles, the ability to tweak body types more effectively, and the possibility of removing breasts on female characters. Players can then download these mods onto their games and play with fewer restrictions than the base game.

In my time, I've seen modders influence the trajectory of games and franchises, with modders creating the content that gamers want to see in their games and encouraging developers to include these changes in future games. For example, when *The Sims 4* came out, players lamented the lack of gender inclusion—the game only allowed the player to choose binary genders for their Sims. However, with a later update, *The Sims 4* included the option to change a Sim's physical frame, clothing preference, whether the Sim can get pregnant or make other Sims pregnant, and whether or not the Sim can pee standing. These changes were simple enough to add to the game, but the celebration from queer players was widespread.

Modders and indie game developers hold the future of gender representation in gaming in their hands. Because they are first and foremost players themselves, and often players who aren't represented in development studios, modders will then create the games they want to see in the market. This grassroots development will really help marginalized groups see themselves in games, because they will be the people making the games.

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An Interview with Erica Doherty

Hometown

Centereach, NY

Major

Communication

What have you been up to since graduating from Geneseo?

I am currently the Area Coordinator of Onondaga and Niagara Halls on the SUNY Geneseo campus. I am also enrolled at Stony Brook University's Masters Program in Higher Education Administration.

Why do you feel that GREAT Day is important?

Great Day is an important day for students to display the hard work and dedication they have put towards their academics. It is an amazing way for students to recognize their peers and for faculty and staff to acknowledge the contribution students are making.

What was your experience presenting your work at GREAT Day?

Last spring, Dan [Stern] and I presented our paper, which overviewed the effects of relational termination on college students through the communicative theory of facework. It was exciting to see our hard work come together and how confident we were when discussing our findings. I was also grateful to see some of my past professors and friends supporting me.

Communicative Processes within Relational Termination and its Effects on Face: An Application of Facework Theory

Erica Doherty & Daniel Stern

Sponsored by Meredith Harrigan

ABSTRACT

Framed by facework theory (Goffman, 1967; Cupach & Metts, 1994), the present study sought to identify the communication processes that emerging adults perceive as face-threatening, as well as understand strategies used to maintain face within the context of a relational termination experience. A data set consisting of six interview transcripts showcased three communication practices that are perceived as face-threatening: a desire for autonomy, differing expectations, and perceived disrespect. Furthermore, three communicative facework strategies were identified: communication regulation, interpersonal management, and selective disclosure. Implications of the findings are discussed and suggestions for future research are provided.

During the process of transitioning to college, students typically experience greater opportunities to form new relationships. This stage of life, which is commonly referred to as emerging adulthood, is a time where new identities are explored and constructed (Arnett, 2000; Kenney, Thadani, Ghaidarov, & LaBrie, 2013). Arnett (2000) states, “a key feature of emerging adulthood is that it is the period of life that offers the most opportunity for identity explorations in the areas of love, work, and worldviews” (p. 473). Specifically, further exploring romantic relationships, whether casual or committed, is common during this period of time (Arnett, 2014; Shulman & Connolly, 2013). As emerging adults begin to form romantic relationships, these relationships are often unstable and ambiguous due to the lack of committed relational experience (Arnett, 2014; Maner & Miller, 2011). Furthermore, because of numerous other responsibilities, such as education and work, more young people intentionally delay their participation in romantic commitment (Arnett, 2000; Kenney et al., 2013). Therefore, it is commonplace for emerging adults to engage in a cycle of romantic relationship formation and termination (Vennum & Fincham, 2011).

The study centers on the relational experiences of emerging adults. More specifically, we sought to understand communicative processes within the context of relational termination and its effects on identity. Relational termination has been defined by scholars as the final stage of interaction prior to physically and psychologically leaving a relationship (Trenholm & Jensen, 2013). This communicative experience can occur through a variety of strategies and techniques. The language the terminator chooses to use and the attitudes they express can result in positive or negative interpretations by the receiver. In addition, these interpretations can be attributed to the terminator or to the receiver. Furthermore, these positive or negative interpretations can either strengthen or weaken one’s identity post-termination (Kunkel, Wilson, Olufowote, & Robson, 2003).

Due to the importance of identity exploration during emerging adulthood, further research could assist in understanding the methods and effects of relational termination. In some cases, relational termination has been associated with negative effects such as increases in depression, anxiety, and hostility (Sprecher, 1994; Stewart, Copeland, Chester, Malley, & Barenbaum,



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1997). In other cases, relational termination has been associated with positive effects such as a sense of relief (Kunkel et al., 2003). Additionally, it is important to explore how these contrasting effects are formed based on one's desired sense of self and autonomy.

FACEWORK THEORY

Face refers to a "conception of self that each person displays in particular interactions with others" (Cupach & Metts, 1994, p. 3). Face can be broken down into two types: positive face or "the desire to be liked and respected by the significant people in our lives," and negative face as "the desire to be free from constraint and imposition" (p. 165).

People strive to achieve both desired identities, however, any interaction can potentially challenge this desire and result in face loss (Tracy, 1990). This jeopardization of one's sense of self is called a *face threat*. Cupach and Metts (1994) divided this concept into two distinct categories: *positive face threats* and *negative face threats*. A positive face threat occurs "when one's fellowship is devalued or one's abilities are questioned" (Cupach & Metts, 1994, p. 166). On the other hand, a negative face threat occurs when there's an infringement on one's desire to remain autonomous and free from burden (Cupach & Metts, 1994). Specifically, in regards to relational termination: "ending a relationship is perhaps one of the most face-threatening situations we encounter" (Kunkel et al., 2003, p. 386). In order to avoid and manage face threats, one must engage in the process of facework.

Facework is "the communication designed to counteract face threats to self and others" (Goffman, 1967, p. 166). The complexities of facework can be differentiated into four sections: *positive facework*, *negative facework*, *preventative facework*, and *corrective facework*. Positive facework is the communicative process that maintains and restores our positive face, whereas negative facework is the communicative process that maintains and restores our negative face (Cupach & Metts, 1994). Facework can take the form of prevention or correction depending on the sequence of events. If one anticipates their face or someone else's face to be threatened, they may engage in preventative facework, which is the process of avoiding or minimizing the loss of face. This type of

communication is commonly achieved through tactics such as "avoiding face-threatening topics, changing the subject of conversation when it appears to be moving in a face-threatening direction, and pretending not to notice when something face-threatening has been said or done" (Cupach & Metts, 1994, p. 166). Meanwhile, if someone has already lost face, they may engage in corrective facework, which is "an effort to repair face damage that has occurred because of a transgression" (Cupach & Metts, 1994, p. 167). For example, one may engage in corrective facework through avoiding, apologizing, accounts, humor, nonverbal displays of anxiety or discomfort, physical remediation, empathy, and/or support (Cupach & Metts, 1994). When one engages in facework, it is oftentimes a combination of positive or negative facework with preventative or corrective facework. This allows for one to protect their positive or negative face while simultaneously avoiding or remediating the loss of face. According to Cupach and Metts (1994), "facework is integral to managing the challenges and dilemmas of relationships" (p. 169). More specifically, the potential to manage one's own and another's face is key to being a competent interpersonal communicator (Cupach & Metts, 1994).

According to Cupach and Metts (1994), "the management of face is particularly relevant to the formation and erosion of interpersonal relationships" (p. 169). Furthermore, "it seems likely that people's strategic choices are guided and constrained, in part, by the face concerns that they infer from particular relational influence goals" (Kunkel et al., 2003, p. 385). Clearly, when terminating a relationship, one must be aware that their communication, whether carefully or loosely selected, can dramatically impact their own, as well as another's, face. Therefore, facework theory provides a lens that enables us to study the correlation between one's communicative processes used and the effects that these processes have on one's own or another's identity.

The present study centers its attention on two specific aspects of romantic relationships: the communication that takes place during the termination as well as the communication that takes place post-termination. Since there are a variety of ways in which this communicative experience can occur, we are curious how this process is determined by the terminator. In our case, we sought to comprehend the particular



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communication processes emerging adults view as face threatening within the context of a relational termination, and more so, how they manage those communicative processes in order to maintain or correct face post-termination. Aligning with this objective, our research questions are as follow:

RQ1: What communication-related experiences do college students perceive as face threatening within the context of a relational termination experience?

RQ2: What facework strategies do participants practice during and following the termination of the relationship that were not present in the relationship?

METHOD

The present study is situated within the interpretative paradigm and, in turn, seeks a rich, detailed understanding of participants' experiences and perceptions (Baxter & Babbie, 2004). Consistent with interpretative research, we employed qualitative methods of data collection in order to understand participants' communicative experiences.

Data Collection

The present pilot study centers on relational termination and the communicative experiences associated with it. Out of a total research group of 24 people, six individuals participated in this research: Participants 4, 5, 6, 22, 23, and 24. In order to participate in that study, individuals had to meet the following criteria: (a) be at least 18 years of age; (b) have experienced a "break-up" of a serious romantic relationship which lasted at least six months; (c) ended that relationship at least three months prior to the interview but no longer than five years ago; and (d) ended the relationship between the time they were 17.5 to 25 years old.

Following the approval of SUNY Geneseo's Institutional Review Board, all participants first completed a brief survey about basic background information such as their sex, religion, relationship status, and organizational affiliation. Following the completion of the survey, participants engaged in semi-structured interviews about their perceptions of their relational termination experience and the communicative experiences surrounding it. Questions included: why

did you break up; did the break-up occur during one conversation or over time; would you describe the break up as clean or would you describe it as messy; and have you come to make sense of the relationship and its ending. Interviews lasted approximately one hour. With participant consent, each interview was audio-recorded and transcribed verbatim yielding a data set consisting of 58 pages of single-spaced text.

Data Analysis

The researchers performed a collective process of qualitative thematic analysis in which the goal was to identify themes or similarities in experiences throughout the interviews. Themes were generated by an inductive process. The researchers began with an in-depth reading of a subset of transcripts in order to develop an initial list of themes. After this collective process of analysis, the researchers discussed the generated categories and focused on areas of difference in phrasing. The researchers then used the shared list of themes to analyze a second subset of data. Following this collective process, the team collaborated to discuss the effectiveness of the original categories, making adjustments when needed. Then, the researchers used the final list of categories to analyze all six of the resulting transcripts. The researchers followed this same process to answer the second research question. Following this process, the researchers located exemplars to support each finding in the conclusions and to offer a rich description of each finding.

FINDINGS

Our first research question sought to understand the communicative experiences that emerging adults describe as face-threatening within the context of a relational termination. Additionally, through our second research question, we sought to investigate the facework strategies that participants practiced during and following the relational termination that were not present within the relationship. Through the process of qualitative thematic analysis, we identified three communicative experiences that participants described as threatening to their own positive and/or negative face. These are: a desire for autonomy, differing expectations, and perceived disrespect. Furthermore, we identified three facework strategies that participants practiced in order to correct or prevent a loss of face, both for themselves and/or for their



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partner. These are: communicative regulation, interpersonal management, and selective disclosure. We will further elaborate on these processes.

Desire for Autonomy

Participants commonly described their desire for independence as being threatened during their relational termination experiences. In scenarios when participants initiated the breakup, oftentimes their previous partner would attempt to try and maintain a non-romantic relationship, however, this was commonly undesired and perceived as a threat to the participant's independence. For example, Participant 5 explained, "So, he's like, 'We can still be friends,' and I'm like, 'No, no we can't'" (5: 103–104). In other cases, previous partners attempted to reignite the romantic relationship, creating an emotional burden for the participant. For example;

He texted me and was like, 'I'm sorry I ever broke up with you, like, I miss you and blah, blah, blah.' And at that point, like, he had broken up with me once and I knew, like, I didn't want to get back together with him. (4: 104–106)

As described, individuals wanted to be free from imposition, yet these interactions caused a threat to their negative face. Another participant, who also experienced this negative face threat, noted, "He was always pushing to understand what was going through my mind and sometimes I like to just keep that in my own head" (23: 30–32). Overall participants expressed a common notion of, "I just wanted to move on," (22: 472) which was prevented through these communicative experiences during the course of the termination.

Differing Expectations

A second face-threatening communicative experience that participants identified was differing expectations. These experiences included feelings of uncertainty, deviations from unspoken rules of a relationship, and a lack of reciprocal actions and feelings. Some individuals who felt uncertain when interacting with their previous partner felt unsure of how to express their desired self: a positive face threat. One participant stated, "I never know if I'm going to get a friendly response, ignored, or yelled at for something,

so I feel like I'm still walking on eggshells and we're not even dating" (6: 222–224). This feeling of uncertainty was induced through a lack of clear expectations between the two individuals. Another instance of uncertainty occurred when Participant 24 shared,

My thing that always tripped me up was how he acted so outgoing and confident and happy outside, but then he would break down to me about his insecurities. It seemed like I was dating two different people, a really cool confidant dude, then a really insecure dude as well. (24: 346–350)

The inconsistent personality of Participant 24's previous partner led to unclear expectations during their relationship, creating an emotional burden: a negative face threat. Similarly, expectations can be misunderstood when the rules of a relationship are not clearly defined, and instead, assumed. Participant 4, who was engaging in a "friends-with-benefits" relationship, experienced a face-threatening situation when their partner broke these unspoken rules. They expressed that, "I thought it was weird that he seemed super upset about it," (4: 297) and further explained that, "It was supposed to be a like a friends-with-benefits thing with no, like, feelings" (4: 300). As described by Participant 4, these unclear expectations led to an unwanted emotional burden: another negative face threat. A lack of communication can lead to differing expectations; in some cases, however, even when expectations were explicitly communicated, face threats occurred when one's actions and feelings were not reciprocated by their partner. One participant explained that they communicated with their partner about their unhappiness in the relationship and wanted to work together to fix it. The participant expressed that their partner, "seemed willing to do that," (6: 88) and went on to disclose that, "I felt that I was trying and they weren't" (6: 89). Due to a lack of reciprocity, a positive face-threatening experience was created because the participant did not feel valued.

Perceived Disrespect

The final face-threatening communicative experience that participants described was perceived disrespect. Through a variety of actions, whether it be



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via technology, actions, or words, participants felt that their feelings were no longer valued. Many participants described experiences where their face was threatened on a social media site. For example, Participant 6 recalled, “I was blocked on Snapchat,” (6: 212) and Participant 23 stated, “She unfriended me,” (23: 370) referring to Facebook. This cessation of connections via social media is a parallel to relational termination. These actions showcase a positive face threat by deflating the participant’s sense of desired self. Another participant attempted to abstain from the use of technology and went on to explain, “We were both just waiting ‘til we were face to face, cause I wanted to give him a little more respect than a phone call or a text,” illustrating the disrespect associated with terminating a relationship by means of technology. However, once the participant’s partner made no attempt to talk face-to-face, the participant was forced to resort to a text. Participant 5 described the content of their message along the lines of, “I’m done with this. I don’t want to do this any longer” (5: 94). Although the participant tried to terminate the relationship in a respectful manner, they were forced to resort to technology when their partner did not value the participant’s request. This interaction is an example of a positive face-threatening communicative experience, because the participant felt that they were no longer appreciated.

Other participants perceived a similar sense of disrespect through their partner’s behavior. When describing their relational termination experience, Participant 23 stated, “I wish he didn’t stay as long as he did because then you’re just marinating in the fact that you broke up and he’s still sitting there, like, ‘get out of my face please’” (23: 147–149). In this scenario, a positive face threat occurred when the participant’s partner failed to respect their emotional space. A similar face threat was experienced by participants who were not directly interacting with their previous partner, but rather, were interacting with others while their previous partner was present. Participant 6 expressed, “If I’m showing interest in someone else, they will purposely lurk around and make both of us feel uncomfortable” (6: 230–232). Additionally, sexual interactions between an individual’s partner and another leads to perceived disrespect. For example, one participant expressed anger and sadness when disclosing, “It probably was a slightly emotionally

abusive relationship,” (5: 27) and went on to state, “I found out after we broke up that he was potentially cheating” (5: 248–249). Furthermore, invading one’s privacy also leads to perceived disrespect. After the relational termination occurred, Participant 22 explained how their previous partner continued to maintain connection with their Aunt, who the previous partner often confided in. Their previous partner frequently visited the participant’s house unbeknownst to them. Participant 22 stated, “My aunt would tell me sometimes, like, even if I had no idea that she came to my house” (22: 401–402). Due to a disrespect of privacy, space, and autonomy, this experience is both positive face-threatening as well as negative face-threatening.

Finally, a perception of disrespect can stem from verbal interactions. The interaction between Participant 5 and their partner highlights this face threat. While conversing with their partner, their partner made the claim that, “I’ve been wanting to break up for months” (5: 221–212). This was immediately received as a positive face threat by the participant, who went on to say, “I think he was avoiding the break up. So, in my opinion, that’s violating me, kinda, because it’s like, you should give me that respect to not to drag it out” (5: 209–210). Here, the perception of disrespect was rooted in the hidden feelings that were disclosed by the participant’s partner.

Interpersonal Management

Our second research question sought to understand the facework strategies that participants practice during and following the termination of the relationship, that were not present in the relationship. The first facework strategy that was used during and/or after the relational termination was identified by researchers as interpersonal management. Interpersonal management can be described as the process of working towards the desired relationship post-termination to either prevent or correct a loss of face. Individuals commonly engaged in two forms of management: total termination and connection maintenance.

Total termination.

When participants engaged in total termination, they desired complete separation, both physically and verbally, from their previous partner. This occurred before or after the loss of face, and was due



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to a desire for autonomy, respect, and freedom from emotional burden. The degrees of total termination were expressed by participants in a variety of ways. Some individuals carried negative emotions and anger behind their total terminational experiences. In order to mask their feelings, Participant 23 expressed, "I just cut off complete communication; we just didn't talk at all," (23: 228–230) preventing the loss of negative face. When Participant 5's previous partner expressed interest in continuing a friendship, they replied, "No, no, we can't," and went on to explain, "I didn't want to be near him. I didn't wanna be in school with him. I didn't want anything to do with him. We were broken up. We were done" (5: 115–116). The participant expressed a fear of losing positive face again if the relationship were to continue, exemplifying preventative facework. Other participants who engaged in total termination did so in a passive manner and associated this experience with feelings of acceptance. One participant verbalized a desire to move on, stating, "I kind of just went on my merry way" (23: 109). This demonstrates a corrective facework strategy because the individual regained their positive face by spending time with family and friends. Another participant conveyed a similar desire to physically separate by saying, "I think it was good for me to take my mind off that. I think it was also good for her to take her mind off that. You know, just do other things" (22: 382–383). This resulting satisfaction from separation can be labeled as a corrective facework strategy due to the attempt to repair their positive face. Lastly, when an individual emotionally accepts the relational termination, they gain the ability to self-rely without any need for their previous partner. In regards to their partner, Participant 23 expressed, "he became irrelevant," (23: 239) representing their self-reliance following their breakup. This autonomous attitude is indicative of corrective facework to their negative face.

Connection maintenance.

On the other hand, some participants engaged in the process of maintaining connection with their previous partner through a multitude of ways. While some individuals maintained connection through providing emotional support, others continued to engage in a friendly, non-sexual relationship. During the termination, Participant 4 explained how their partner engaged in preventative-positive facework by stating,

"He said that, like, in the future, like, if I ever needed to talk about it, he would be there to talk about it," (4: 128–129) to prevent the loss of their desired sense of self. Rather than engaging in connection maintenance during the time of the relational termination, other participants expressed connection maintenance occurring post termination: corrective facework. One participant explained how they reached out to their previous partner via text to emotionally support them, saying, "There would be times where I would be like, 'Hey, how are you doing?' You know, like making sure everything was alright with you" (22: 233–234). Even participants who did not normally interact with their partner post-termination provided emotional assistance if their previous partner was in need. Participant 5 described a time when their previous partner appeared physically unwell and demonstrated corrective facework when explaining, "I did stop and ask like, 'Are you alright? Do you need anything?' And he's like, 'Yup, I'm fine. I'm good.' End of interaction. I was nice; I was the bigger person; I made sure he wasn't dying" (5: 295–299).

An alternative connection that individuals participate in is maintaining a friendly, non-sexual relationship. These relationships involve basic communication, friendly meet-ups, and sometimes a renewal of friendship. Due to the bolstering of positive face following the termination, these strategies exemplify corrective facework. For example, Participant 23 exemplified basic communication when they explained, "If he posts something like pictures or whatever we'll like each other's pictures," (23: 194–195) whereas Participant 24 engaged in a friendly meet-up when they stated, "When we go home for the holidays, we'll meet up for a coffee and catch up; see what's going on in each other's lives" (24: 180–181). Meanwhile, some individuals expressed a renewal of a friendship. Participant 23 went on to explain,

Everyone will go through that, 'Oh, we broke up' stage, but it wasn't too horrible where I was miserable for forever. It was a couple days and I was like, 'you know what, it was for the best.' After—near the end of the summer, we were kind of just talking again. (23: 72–75)

Evidently, individuals manage their interpersonal connections with their previous partners, through



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total termination and connection maintenance, to prevent or correct their loss of face.

Communication Regulation

The second facework strategy that was implemented throughout the context of the relational termination was identified by researchers as communication regulation. Communication regulation can be described as the process of controlling verbal and nonverbal interactions between participants and their previous partners to prevent and/or correct the loss of face. Individuals commonly engaged in two forms of regulation: technological and interaction.

Technological. When participants engaged in regulation through technology, they often used passive-aggressive behaviors to protect and/or bolster their positive or negative face. Some participants posted on social media to implicitly express their emotions. In hopes of eliciting a reaction from their previous partner, Participant 4 posted a collection of photos on Instagram that were “a little bit, um, ambiguous I guess” (4: 229–230) and further explained,

I said something like ‘step one to feeling better or, like, dealing with sadness’ and it was, like, cuddling with my cat. And then, I don’t know if that was the first one but I also posted one with M&Ms with a blue M&M and I was like ‘blue.’ And so, I was, like, kind of hinting at the fact that I was sad. (4: 233–236)

Similarly, Participant 5 “was discreet about it” (5: 262) and stated,

I posted a nice little selfie. It had some Ariana Grande lyrics...I don’t remember the exact lyrics...I could probably go find them.... It was a nice little selfie about being single, and there were some Ariana Grande lyrics, and I looked absolutely fantastic in the photo. (5: 255–257)

They went on to elaborate on their intent with the photo and said, “It’s kinda like a nonchalant, like... ‘yeah, I’m single. Don’t talk to me, but I’m single’” (5: 258–259). These actions demonstrate corrective-positive facework because the participants are mending the loss of their desired sense of self.

Other individuals illustrated an avoidance of social media to protect and/or repair the loss of their positive face. When speaking about their usage of Instagram, Participant 24 stated, “For a while I didn’t want to look at his pictures; I thought he may post something that would make me sad” (24: 305–306). Analogously, Participant 5 terminated their connection with their previous partner via social media when they explained, “I definitely deleted him off of Snapchat, or blocked him...one of the two” (5: 302–303). Some participants refrained from using social media as a whole, such as Participant 22, who expressed, “I remember not going on social media or anything for a while and instead I just hung out with my friends” (22: 322–323). On the contrary, another participant partook in the use of social media to renew their positive face through new connections when they said they “went on Tinder, had fun with that” (23: 217).

A final instance of avoidance occurs when an individual will “hide behind technology” (5: 181). This act of “putting the screen between you” (4: 192) was represented when Participant 5 allowed their friends to terminate their relationship via text in order to prevent a positive face threat, therefore, engaging in preventative facework. Participant 5 justified this behavior when they expressed it was “kind of like, putting the blame on somebody else; not taking responsibility” (5: 382).

Interaction. When participants engaged in regulation through interaction, they used facework strategies that were either reciprocated or one-sided in order to prevent or correct the loss of positive or negative face. In terms of reciprocation, one participant “tried to work through it” (22: 194) after experiencing an argument, or a threat to their positive face. They continued to explain, “She couldn’t handle it and stuff like that, and then other times I would be like, ‘hey, I can’t handle this,’ and then it progressed to the point where we were like, ‘hey, we both can’t deal with this,’” (22: 131–133) and finally, “came to a mutual agreement...[that] it was probably best” (22: 103–104) to move on. Due to the desire for autonomy and freedom from emotional burden, this participant practiced corrective-negative facework. Another reciprocal interaction was highlighted by Participant 24 when they began to engage in sexual behavior with their partner, but had not previously defined their relationship. Immediately prior to this activity, they



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asked, “What are we even doing? Am I your girlfriend?” (24: 243). The individual continued to say, “I literally said that, and he was like ‘Yeah, you can be my girlfriend.’ And then I actually said, ‘Okay, we can make out now’ (24: 243–245). Through engaging in this communication, Participant 24 avoided a potential face threat by defining “what we were,” (24: 246–247): a preventative facework strategy.

Other participants regulated their relational termination through a one-sided, verbal interaction. Participant 24 expressed, “I wasn’t gonna let myself be hurt by the fact that he still didn’t want me as much as I wanted him” (24: 215–216). Due to a lack of reciprocity, Participant 24 was forced to use one-sided communication and express cold feelings to their partner about the relationship ending. This strategy is an example of preventative-negative facework because the participant was avoiding losing negative face, or acquiring an emotional burden. Another participant verbalized negative feelings during the relational termination in a one-sided manner when they stated that they “expressed feelings of being unhappy and unsatisfied multiple times in hope that something would change” (6: 51–52). When things did not change, they were again forced to engage in one-sided communication and “initiated it,” (6: 51) referring to the breakup. In this case, the individual partook in preventative-positive facework when they communicated that they were unhappy to prevent the loss of positive face, and engaged in corrective-positive facework when they initiated the breakup to repair the loss of positive face. Lastly, other participants did not even mutually attempt to fix their relationship problems with their partner, but instead immediately communicated in a one-sided fashion. For example, Participant 5 explained, “It was just to get my point across that ‘you’re not good for me, so I’m leaving’” (5: 98–99). This attempt to repair their positive face exemplifies corrective-positive facework.

Selective Disclosure

The final facework strategy that was used during and/or after the relational termination was identified by researchers as selective disclosure. Selective disclosure can be described as the process of choosing which information to share and with whom to share it in order to prevent or correct the loss of face. Participants used selective disclosure when sharing feelings

and emotions with their previous partner throughout the context of the relational termination as well as when revealing their feelings and emotions with friends and family post-termination. Some participants chose to be very selective with the feelings and emotions they shared with their partners in an effort to prevent a loss of face. For example, one participant experienced negative feelings towards the strength of their relationship, however, used selective disclosure to delay the potential relational termination. They stated, “I kind of just kept dating him because I didn’t think it was a strong enough reason to break up” (4: 320–321). Participant 6 engaged in selective disclosure during the relational termination when they expressed, “I had kept some of my more intense emotions to myself to kind of, I guess, protect my own self-esteem during the break up” (6: 254–255). Furthermore, Participant 6 continued to withhold their feelings towards their partner when they explained, “Obviously I was in love with the other person but I never said it because I knew the feeling wouldn’t be reciprocated” (6: 97–98). These are all examples of preventative-positive facework because the individuals were preventing the loss of their positive face, or the self that desires to be liked and valued. A final example of participants engaging in selective disclosure with their partner occurred post-termination. Participant 24 also used preventative-positive facework when they chose to hide their negative emotions following their breakup and said, “I pretended to play it cool” (24: 116). They went on to explain the reasoning behind this by saying, “I didn’t want this to linger over my head for the next four years” (24: 117).

Selective disclosure was also present during conversations with friends and family regarding the relational termination. Some individuals used selective disclosure to avoid providing too many details to conceal private information and emotions. Participant 6 described this strategy when they said, “I don’t want to embarrass my ex in any way, so I tend to not disclose a ton” (6: 256–257). Similarly, another participant purposely chose not to disclose and explained, “I was probably embarrassed by it and I didn’t know how to handle it” (24: 355–356). Moreover, Participant 22 did not choose to fully disclose and shared, “I kind of left a lot of things out when explaining it. Just like, yeah, we broke up, and they would ask why and I was just like, just because it happened” (22:



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457–459). Likewise, another participant explained, “I didn’t tell anyone anything happened until it came up in conversation” (23: 234). Strategies of this nature represent preventative-positive facework because of the participants’ decisions to not disclose in order to protect their positive face. On the other hand, Participant 4 chose to disclose information about their relational termination to their mother, yet refrained from disclosing their lingering romantic feelings. They justified this decision when they expressed, “I feel like if I told her that I still had feelings for him she’d be like ‘well, that’s stupid, why would you have feelings for somebody that just talked to you like this and broke up with you?’” (4: 349–351). Due to the potential for their sense of self being violated, this behavior exemplifies preventative-positive facework. Finally, Participant 22 engaged in selective disclosure immediately following their relational termination, explaining that “it was a little bit about keeping it between us” (22: 471). After time had passed, they accepted what had happened and became comfortable enough to broaden their scope of disclosure and went on to say, “That was before, now I can talk about it” (22: 472–473). This corrective-negative facework strategy allowed Participant 22 to pursue their desire for autonomy.

As described, the present study discovered three experiences that participants describe as face threatening within the context of a relational termination, as well as three facework strategies that participants practiced during and following the relational termination that were not present within the relationship. Face threatening experiences involved a desire for autonomy, differing expectations, and perceived disrespect, whereas facework strategies included communicative regulation, interpersonal management, and selective disclosure. In the following section we discuss potential implications of these findings and suggestions for future relational-termination research.

DISCUSSION

The present study sought to understand the following research questions: to understand the communicative experiences that emerging adults describe as face-threatening within the context of a relational termination and to investigate the facework strategies that participants practiced during and following the relational termination that were not present

within the relationship. The three experiences that participants described as face threatening within the context of a relational termination were identified as a desire for autonomy, differing expectations, and perceived disrespect. On the other hand, the three facework strategies that participants practiced during and following the relational termination that were not present within the relationship, were identified as communicative regulation, interpersonal management, and selective disclosure.

We can conclude that emerging adults vary in choosing to self-disclose or not. Furthermore, when self-disclosure occurred, the quantity and quality of information shared ranged widely. Current findings support Peter, Valkenburg, and Schouten’s (2005) argument that “because of their greater social skills, extroverted adolescents also self-disclose and interact more easily with others” (p. 428). In other words, participants who chose to self-disclose about their relational termination experience appeared to be extroverted individuals, whereas those who chose not to self-disclose about their relational termination experience appeared to be introverted individuals. In turn, future scholars might seek to understand the correlation between personality traits and level of self-disclosure.

Additionally, the present study concluded that emerging adults make sense of their relationships ending through feelings of acceptance and/or alleviation. Therefore, this finding supports the argument made by Kunkel et al. (2003) that relational termination has been associated with positive effects, such as a sense of relief. Interestingly, Fox and Tokunaga (2015) found that “individuals most traumatized by a breakup are most likely to monitor their ex-partners online” (p. 495). Based on the interpretation of the data collected, there was no display of traumatization amongst the participants. Given the fact that this was a pilot study and involved a small sample size, we suggest that future researchers go into a deeper analysis of the present study. However, future researchers should interview participants within one month after the relational termination occurred in order to find a relationship between relational termination and traumatization.

Furthermore, the findings in the current study identified feelings of discomfort and/or awkward-



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ness when participants were in the presence of their previous relational partner. More specifically, these negative feelings were the result of relational termination experiences that were not mutual: either the participant initiated the relational termination or the participant's previous partner initiated the relational termination. This supports the argument made by Sprecher (1994) that relational termination has been associated with negative effects such as increases in depression, anxiety, and hostility. Future researchers would benefit from studying these non-mutual relational termination experiences by investigating the relationship between face-threatening behaviors and negative psychological emotions post-termination. Narrowing the sample of participants would allow researchers to find richer data that would provide more practical implications.

Also, it is potentially important to understand the analysis of relational termination experiences amongst divorced couples due to the probable severity of face-threat experiences and facework strategies. Additionally, due to the continuing evolution of social media, and updated study on the use of technology following a relational termination experience should be conducted.

Overall, these connections to the literature contribute to an increased awareness and practical application of relational termination. Again, emerging adulthood is defined by Arnett (2000) as a time for, "identity explorations in the areas of love, work, and worldviews" (p.473). Furthermore, these relationships frequently lack stability and clarity as a result of relational inexperience (Arnett, 2014; Maner & Miller, 2011). Therefore, emerging adults would benefit the most from becoming more aware of the common experiences surrounding a relational termination.

First, it is important for those who have initiated a relational termination to understand that their previous partner will have a desire to be independent post-termination. For example, these individuals should withhold from communicating with their previous partner immediately following the termination to give them time to begin to accept the end of the relationship. Failure to adhere to this suggestion commonly resulted in an emotional burden being placed on the previous partner. Further, emerging adults would also benefit from learning about the

importance of clear communication when engaging in a romantic relationship. Clear communication involves setting rules and defining the meaning of the relationship in order to prevent future misconceptions of one another's expectations. Student Care Services on a college campus could support a leadership workshop series on interpersonal relationships. Particularly, one that provides detailed information about clear communication within romantic relationships as well as post-termination recommendations. A specific worksheet providing basic steps to take after a relational termination could be supplied to those who attend (see Appendix for an example of this worksheet).

Second, emerging adults commonly feel a sense of loneliness following a relational termination experience. It is essential for individuals going through this difficult time to understand that they are not alone and engage with others who are currently experiencing, or have experienced, a relational termination. Counseling centers on a college campus can facilitate support groups for individuals who need additional guidance. This service can reach a large portion of college-age students through fliers posted on bulletin boards in college unions, academic buildings, and residence halls. More specifically, Resident Assistants can be made aware of this service and provide more details to students who confide in them for help.

Finally, when emerging adults decided to self-disclose about their relational termination, they often did so with close friends and family members. It would be beneficial for the recipients of this private information to understand how to best empathize and support those experiencing a relational termination. Faculty members of the Communication and Psychology departments could supply a flier on how to best handle a relational termination based on evidence from scholarly sources. These fliers could then be distributed to incoming students and their families through the folder materials they receive at new-student orientation.

In conclusion, the present study outlined three communicative experiences that emerging adults describe as face-threatening within the context of a relational termination, as well as three facework strategies that participants practiced in order to correct or prevent a loss of face both for themselves and/or for their



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partner. We can conclude that the decision to self-disclose information about the relational termination varied across participants. Additionally, while some individuals felt a sense of relief and/or acceptance following a relational termination, others felt a sense of discomfort and/or awkwardness. To maintain and/or correct their own and their partner's face in this relational context, individuals should cease from communicating with their previous partner in an attempt to rebuild autonomy.

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An Interview with Haerreem Hyun

Hometown:

Rochester, NY

Major:

Psychology, Cognitive Science & Sociomedical Sciences double minor

What have you been up to since graduating from Geneseo?

I am currently the financial secretary for Graduate Education and Postdoctoral Affairs at the University of Rochester's School of Medicine and Dentistry. In April, I will be presenting my research at the 2018 Society for Applied Anthropology Annual Meeting in Philadelphia, PA. I am planning to pursue an MPH and, eventually, my PhD.

Why do you feel that GREAT Day is important?

GREAT Day offers undergraduate students a platform to present their research to peers, faculty/staff, and others that they may otherwise not have interacted with. It is this exposure, and the spotlight it provides for undergraduate research in particular, that makes GREAT Day so important. GREAT Day validates undergraduate research, and brings what can often feel like just a classroom assignment, into the real world arena.

What was your experience presenting your work at GREAT Day?

My experience presenting at GREAT Day was motivating. I was able to present to President Battles and several of my peers (which I otherwise would not have been able to do), and my research became more than just an assignment or grade. Without GREAT Day, my research would not have become published, I would not be presenting my research again at larger conferences, and I wouldn't have been inspired to pursue further research.

The Impact of Low Socioeconomic Status on the Mental Health and Self-Efficacy of College Students

Haerreem Hyun

Sponsored by Melanie Medeiros

ABSTRACT

As an intersectional phenomenon, health is affected by race, class, gender, and other social determinants. This ethnographic study examines the impact of low socioeconomic status on the mental health and self-efficacy of college students. Pre-existing literature is reviewed to provide background knowledge of intersectionality, and interviews with SUNY Geneseo students of low socioeconomic status provide first-hand accounts of structural inequality and life experiences.

Despite living in a purported post-racial society, racial disparities continue to persist and affect the health and livelihood of minority individuals. According to national research by the U.S. Department of Health and Human Services and the Agency for Healthcare Research and Quality (2011), racial or ethnic minorities are consistently reported to experience poorer health and healthcare quality than non-minorities. Substantial research supports these statistics. In comparison to, African Americans (or Blacks) have higher death rates in all age groups including birth, and have a 30% higher death rate overall (Williams, 2005). These trends, unfortunately, are nothing new. For over 30 years, higher rates of death, disease, and disability have been documented for minority ethnicities than for Whites (Lillie-Blanton & LaVeist, 1996, p. 84). Though lacking in comparison to research on physical health, these racial disparities are shown in mental health.

Although research findings report lower rates of mental disorders in minority races, minority individuals who suffer from mental illness are more likely to have severe, chronic, and disabling experiences, and are less likely to have their illnesses treated (Breslau, Kendler, Su, Gaxiola-Aguilar, & Kessler, 2005, p. 321; Miranda, McGuire, Williams, & Wang, 2008, p. 1104). These disparities, however, are not a result

of just racial differences but because minority individuals are more likely to be of low socioeconomic status (SES) (Singer & Baer, 2011, p. 153). In the United States, “Broad patterns of socioeconomic disparities by race exist in many levels of American life;” and, “health and mental health disparities are embedded within persistent socioeconomic differences” (Miranda et al., 2008, p. 1102). Individuals of low SES, are less likely to have health insurance and are therefore less likely to be able to afford treatment for mental illness. Furthermore, based on the social stress theory, low SES individuals are more likely to experience greater stress/stressful situations, but have fewer resources to cope and manage their stress/stressors (Schwartz & Meyer, 2010). Such findings support that disparities in health are also a result of low socioeconomic status, rather than just race.

Due to the pervasiveness of SES effects on health, and a comparatively lacking amount of research on its effects on mental health, it is important to better understand mental health’s social determinants. Despite the recent leaps in mental health treatment and medications, society’s dominant biomedical perspective shadows the biosocial phenomenon of health. Analyzing mental health as a purely biological phenomenon of unbalanced brain chemicals takes attention away from the structural and societal causes of



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health disparities. Metaphorically, the disregard for social determinants of mental health is similar to removing a garden weed, but not by its root. By not removing the root, the weed will regrow, just as mental health disparities will continue without changes in structural inequalities.

In this paper, I will analyze the impact of low socioeconomic status on the mental health and self-efficacy of college students. This will help better understand SES as a social determinant of mental health, the ways SES manifests in student life experiences, and the relationship it has to self-efficacy and mental health. Based on my findings and supporting literature, I argue that low SES has negative effects on student mental health, but predominantly positive effects on self-efficacy.

METHOD

A total of 10 undergraduate students of low SES from the State University of New York (SUNY) at Geneseo, a small public university in upstate New York, were recruited via snowball sampling. Before participating, the student's socioeconomic status was analyzed to meet low SES criteria. Low socioeconomic status was operationalized using the SUNY Educational Opportunity Program income guideline chart, obtained from the SUNY website. Using a semi-structured interview guide, I interviewed consenting, low SES participants (as approved by the SUNY Geneseo Institutional Review Board) about their family, life experiences, and perceived effects of SES on their lives, mental health, self-efficacy, and motivations. Participants were provided a consent form prior to starting the interview, stating that they did not need to respond to any questions they did not want to answer at no consequence to the participant. Participants were also told that they could rescind their data at any point before the research due date.

Participant demographics included: eight ethnic minority students and two White students consisting of six men and four women total, with ages ranging from 18 to 22 (mean age of 19.7) of various majors and class years. Interviews were conducted in places of the participant's choosing to ensure their comfort and privacy. Locations ranged from academic buildings to personal homes both on and off campus. The

interviews were recorded onto an Apple iPhone 5s using the voice memo application. Recordings were then transferred to a MacBook Pro and a password protected external hard drive. The interviews were later transcribed for analysis purposes. Participant identities were protected at all times with the use of coded numbers throughout the study.

The interviews were completed smoothly. However, gaining participant trust proved to be a challenge. In order to gain the participant's trust and to provide an atmosphere of mutual understanding, personal information about myself and my life experiences were shared, which proved to be a successful method of gaining participant trust. Participant shyness and/or awkwardness toward being recorded and interviewed posed another challenge. For some participants, the use of informal speech and casual body language alleviated such feelings. Some participants that remained shy eventually became comfortable with being recorded, or gave concise, yet detailed, responses over the course of the interview. Each interview lasted between 30 minutes to 1 hour. After the interview was completed, the participants were thanked and provided contact information in case they wanted to provide additional information in the future, or rescind provided information.

THE EFFECT OF LOW SOCIOECONOMIC STATUS ON MENTAL HEALTH

In the analysis of societal structure, racial disparities in various fields are substantially reported. These disparities represent another example of health inequalities via societal structures. Addressing this disparity, Dressler and colleagues (Dressler, Oths, & Gravlee, 2005), analyzed the role of genetic variants in disease risk, biological misconceptions of race categories, and the health effect of membership in an ethnic group. Dressler et al.'s (2005) review of literature surmised that documented health disparities based on race and ethnic groups were poorly understood, suggesting that disparities in health were not a result of biological differences, but rather societal differences in health care treatment. The large statistical disparity between White European American and African American health further supported Dressler et al.'s (2005) conclusion. To acknowledge the gaps



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in knowledge and the sociocultural factors in health, the authors emphasized and elaborated on psychosocial and sociocultural models of health, both of which approach health from a structural perspective.

As a pervasive social determinant of health, extensive studies suggest that individuals of low SES experience poorer health, health care access and healthcare quality, and experience higher rates of stress and mortality (Williams, 1990, pp. 83–84). In a review of literature, Williams (1990) analyzed the relationship between stress, social ties, and health behaviors with social structure and health status across various research. He determined that psychosocial factors were more strongly related to health status rather than medical care, and found both psychosocial factors and health status to be positively related to socioeconomic status. He further addressed the need to eliminate inequalities in health via changes in societal structure, thereby acknowledging the biosocial phenomenon of health, and the need to create changes within society to see better futures.

THE EFFECT OF LOW SOCIOECONOMIC STATUS ON SELF-EFFICACY

In the relation of self-efficacy and socioeconomic status, research by Ali, McWhirter, and Chronister (2005) analyzed the effect low SES had on the vocational and education self-efficacy of high school students. Analysis of the results revealed that students' self-efficacy beliefs predicted their outcome expectations. However, a pilot study conducted prior to the main study suggested that support from siblings and peers resulted in belief variance. This further suggests that negative support may negatively affect self-efficacy beliefs, which parallels the biosocial health theory that the environment affects health.

Qualitative research conducted by Blustein, Chaves, Diemer, and Bhati (2002), studied the effect of social class (or socioeconomic status) on the school-to-work transition. Results from the study suggest that individuals of high social class were more interested in work for personal satisfaction than those of low social class. These findings imply that higher class individuals had better access to external resources, higher levels of adaptability within their careers than those

of lower social class, and better self-concepts. The term “self-concept” refers to an individual’s ideas and beliefs of themselves relative to others. Higher self-concepts in high-class individuals suggests that they have more self-confidence than their counterparts. Overall, the results indicate that those of higher SES are likely to have an easier transition from school to work, than low SES individuals. Differences in transition difficulty could negatively affect the hireability of low SES individuals, thereby perpetuating the poverty cycle and wealth gap.

The study by pioneering psychologist Albert Bandura and colleagues (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996), analyzed the effect of self-efficacy beliefs on academic achievement in children. Results showed that efficacy needed to regulate individual learning contributed to academic achievement in two ways: promoting prosocial behaviors and high academic aspirations, and reducing the risk of feeling depressed and vulnerable. Socioeconomic status was found to have only an indirect effect on academic achievement via parental aspirations for their children and the child’s prosocial inclinations. Overall analysis of Bandura et al.’s results suggests the following: self-efficacy can influence and motivate individuals to persevere in the face of difficulties and setbacks, and be resilient in the face of adversity (1996, p. 1208). The researchers also stated that self-efficacy regulates academic motivation, and scholastic achievement while decreasing the vulnerability of succumbing to depression. These findings strongly suggest that self-efficacy has a positive effect on mental health, and could potentially protect mental wellbeing, but may also be affected by environmental factors, including the surrounding individuals.

INTERVIEW FINDINGS: THE EFFECT ON MENTAL HEALTH

Low SES was a source of high stress across all interviewees, and the majority of participants reported experiencing high levels of anxiety as a result of SES stress. Low SES is a social disadvantage characterized by financial instability and lack of affordability. As college students faced with high tuition costs, the affordability of college for low SES students posed the greatest emotional hurdles with the greatest increase in stress levels. The stress of affordability was



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frequently heightened by student concerns over their family, as well as feelings of guilt for posing a financial burden, despite knowing the necessity of a college education. As one student stated,

I knew college was a necessary investment. I knew it was how I could pay my parents back for all their sacrifices, but no matter what, I felt guilty for going to school...I knew it was irrational, but it's hard to reason with an emotion...it makes me feel like crap: that because of money, I have to feel guilty for going to school. That I have to feel like I need to apologize to my parents for causing so much money to be spent, even though they wanted me to go to college...sometimes I feel like I can't breathe just because—I just panic. It's just this tense anxiety all the time. (Male, 21, Brooklyn, NY)

In addition to heightened anxiety, students also reported not seeking forms of support or stress/anxiety relief for the sake of affordability. When asked about coping mechanisms or support networks, both school affiliated or not, one student reported her prioritization of money;

I wanted to join a sorority to give me something fun to do or a group to become close with but then I scrapped that when I found out you have to pay dues that are like, over a hundred dollars... if my friends want to go out and eat on Main street, I'll make up an excuse so that I don't have to. I'll skip out if they want to go shopping in Rochester too. Yeah, I miss out and yeah, sometimes I feel angry and left out, but I tell myself that the feeling of not spending money is way better than the feeling I have after spending it...self-hatred, buyer's remorse, guilt that makes your mouth go dry and your stomach clench until you return it. Yeah. That. (Female, 21, Staten Island, NY)

The feeling of panic and anxiety expressed by the female interviewee parallels social stress theory. Situations that require spending money were incredibly

stressful to the above student, which manifested in physical symptoms of anxiety. However, in her decisions to save money, sources and opportunities to relieve stress were lost, which caused her more stress and anxiety.

In their stress and anxiety about money, both students were also experiencing feelings of insecurity and vulnerability. According to Patel and Kleinman (2003), security is defined as, "[...]stability and continuation of livelihood, predictability of relationships, feeling safe, and belonging to a social group" (p. 611). Due to their socioeconomic status, both students were robbed of feeling secure, which took a toll on their mental health via anxiety.

For some students, being of low SES had a depressive effect rather than an anxious one. The term depressive, used here, refers to the level of mood or emotion the interviewee described rather than the clinical definition which would inherently imply anxiety as well (Patel and Kleinman, 2003, p. 8). For students expressing depressive emotions rather than anxiety, feelings of disconnect and separation from others was a common cause. In regard to her experience at Geneseo, one student expressed,

Geneseo has always appeared positive to me...but I couldn't fit myself in. I didn't have the emotional energy to laugh or smile. I felt like I couldn't afford to join organizations or clubs. So, I focused on school to keep myself from being too pitiful...honestly, everything came down to affordability. (Female, 20, Albany, NY)

It is alarming to note that SES can have alienating effects on individuals. According to several studies, social support and stress are inversely related. With increased social support and group cohesion, individual stress levels can decrease, and improve future health effects (Aneshensel, 1992, p. 26; Pearlin, Schieman, Fazio, Meersman, 2005, p. 209). However, feelings of alienation could discourage social cohesion, which can cause increased buildup of stress and negative health effects. These findings emphasize the far-reaching effects low SES can have on individual health and implications of future health. Research conducted by McLeod and Shanahan (1993) suggest that persistent poverty increases internalizing

symptoms of poor mental health. Andersson, Moore, Hensing, Krantz, and Staland-Nyman (2014), further state that poor mental health increases the likelihood that the individual has lower self-efficacy, creating a cycle of depression and anxiety with self-efficacy too low to help them improve their emotional state.

Research by Gull (2016), however, suggests a mirrored effect. In a study on college students, increased self-efficacy was found to have a positive impact on mental health, and emphasized the need to promote self-efficacy in attempts to remedy poor mental health. Patel, Flisher, Hetrick, and McGorry's (2007) study on adolescent mental disorder interventions found that psychosocial support, diverse forms of therapy, and efforts to better engage with adolescents had significantly positive effects on their mental health. Both Gull's (2016) and Patel et al.'s (2007) suggestions parallel the suggestions made by several students. When posed with the question, "What would you do, or what do you think, would help students in similar circumstances as yourself in navigating the unknowns of college?" one student said;

For me, having someone or a group of people with common ground would help. People where I don't have to feel embarrassed about my socioeconomic status, or where I don't have to hide it. (Male, 21, Astoria, NY)

Students had similar responses to each other, another student echoing;

Maybe a mentor. Err, maybe not mentor really, but just someone who can relate. I don't know how to really explain it but just someone who gets how hard life is. Who can relate to me. Or people too, a whole group even. I think the biggest thing for me would be that other people will understand how important taking care of my family is to me. For people who aren't low, er, of low socioeconomic status don't really know what it's like to have to worry about how your family is holding up without you. Financially, emotionally... (Male, 21, Brooklyn, NY)

As described by Aneshensel (1992) and Pearlin (2005), students frequently desire social support and

group understanding. Parallel to what the research suggests, students sought such social networks in order to find a social arena in which they could feel comfortable about themselves, and relax their worries regarding money and family. One student quite memorably said;

I just want to feel safe and home here at Geneseo. Almost like finding people who speak the same language as you do. (Female, 18, Utica, NY)

To examine current support systems already in place at SUNY Geneseo, I asked students if they had reached out to any organizations and their thoughts about them if they had; and if not, I asked if they were familiar with any existing groups. Almost all participants reported not knowing any groups, or participating in any groups, in which they would feel comfortable talking about their socioeconomic status. A few students mentioned certain clubs, such as Students Against Social Injustice (SASI), which promotes acceptance and student equality. However, most students stated that they had only passing knowledge of the groups or knew of certain people within different clubs. One particular student angrily stated her dislike of school-instituted groups or networks, her reasons being;

I hate feeling like I'm some anomaly. Like I should be grateful to be here just because of my socioeconomic status. I hate that I think people will think that when I tell them I need to save money. I also hate it when I hear people complaining that they have no money. Yeah, sure, I'm wrong to judge too, but I just get so frustrated. I think this whole low SES thing needs to be talked about with people who *don't* get it. I feel like that would be really liberating for people. I guess the point I'm getting at is that the reason people hide their economic status is because of people who don't get it and therefore judge you. (Female, 19, Plattsburgh, NY)

The student's hostility toward specialized groups reflected a common sentiment throughout all the interviews. Students did not want sympathy from others.



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They therefore made certain to avoid situations that require their lack of affordability to become evident because they did not want special treatment or pity from others. This avoidance was also reflected in students' desires to find similar students where receiving sympathy would not be a concern.

Shifting from socioeconomic effects on mental health to its effect on self-efficacy, student responses showed a marked difference in the certainty and consistency of their answers. When directly asked about how they perceived low socioeconomic status affected their self-efficacy, all participants strongly believed their SES had a positive effect because it allowed them to realize the privilege of attending college and motivated them to succeed. As a freshman student said,

I get all my work done...I try my best... school is not something you should take for granted. It's a privilege to be here and my experiences definitely help me remember my privilege...when I'm here [at school] I feel motivated. Like I made it. It makes me feel good about myself and everything I've worked for. (Male, 18, Wappingers Falls, NY)

Another freshman expressed a similar sentiment;

My senior year of high school...I made sure to do well...I wanted to be able to go to a good school so that I could get a good job...I hated having to stress out about money all the time so I wanted to make sure I didn't end up the same way later. (Female, 19, Buffalo, NY)

The students' statements support the findings by Bandura et al. (1996) that suggested self-efficacy in regulating individual learning positively contributed to academic achievement via pro-social behaviors and high academic aspirations.

CONCLUSIONS

This paper has exemplified the effect low socioeconomic status has on the mental health and self-efficacy of college students. Based on student interviews and existing literature, low SES was reported to negatively affect mental health, as students frequently experienced symptoms of depression and anxiety as

a result. Tuition costs posed emotional and mental hurdles that students needed to justify in order to validate attending college. Socioeconomic stress also deterred some students from stress relieving activities such as outings with friends and extracurricular activities. This controlling effect money had on student behaviors and choices, and the negative impact it had on their mental health, exemplifies the biosocial phenomenon of health.

Contrastingly, low socioeconomic status had a positive effect on self-efficacy. Students consistently reported high self-ratings of efficacy, and attributed their academic success and motivation to their humble backgrounds. These reports were consistent with previous research showing self-efficacy beliefs in students predict academic outcomes, and that self-efficacy promotes prosocial behavior (Ali et al. 2005; Bandura et al. 1996).

In student interviews, thoughts or information on existing support systems was nearly obsolete. However, based on both financial and social struggles expressed in student interviews, current support systems that are available and their effects on student health should be further researched. These studies could help in disseminating information on available support systems, which could potentially benefit students searching for social support.

Financial instability has pervasive health effects that can negatively impact academic success. Findings from the present research could be used to support the implementations of certain policies and education programs that provide financial assistance to students in need.

Research conducted by Marlowe et al. (n.d.) and Page et al. (2016) showed low income college students have lowered odds of academic success, as measured by graduation rates. In low SES students, factors that inhibited college graduation were frequently financially related rather than academically related. Based on Blustein et al.'s (2002) research, these interruptions can have negative effects on self-efficacy. Furthermore, Page et al.'s research (2016) shows financially supporting low SES students can increase graduation rates by increasing the students' self-efficacy. Improving self-efficacy as a means to



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improve mental health was also suggested by Gull (2016).

Findings from the present research, supported by findings from previous studies, and the continued importance of education and academic opportunity, the present data can be used to support education financing organizations and/or policies. Providing students of low socioeconomic status with equal opportunities to pursue higher education is imperative in combating the poverty cycle, the growing wealth gap, and the structural inequalities that negatively impact health.

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An Interview with Maria Gershuni

Hometown:

Brooklyn, NY

Major:

International Relations

What have you been up to since graduating from Geneseo?

I am currently attending the Johns Hopkins University School of Advanced International Studies (SAIS) as a Masters of Arts candidate in International Relations and International Economics, with a concentration in European and Eurasian Studies. At SAIS, I am involved in our school acting group—SAIS Thespians—as well as the Russia and Eurasia Club, Model UN, and the annual Crisis Simulation. Right now, I am also a Defense and Foreign Policy Intern at the Cato Institute and plan to spend this summer interning in Moscow.

Why do you feel that GREAT Day is important?

GREAT Day is very important because it gives you the ability to see what your friends have been working on in their classes. So often we get wrapped up in our lives and forget that the people we see every day are also working on rigorous and interesting research. GREAT Day allows for us to come out and see what our peers have been working on for the past semester and year, which allows us to paint a more complete picture of what is going on in Genny.

What was your experience presenting your work at GREAT Day?

I presented at GREAT Day twice, my Junior and Senior year, both times with Professor Robert Goeckel in the Political Science & International Relations department. The first year was tough, because I had the first presentation and my alarm didn't go off in the morning so I ended up being late to my own presentation! However, I am very happy I presented that year, since my Junior year paper "Russian Soft Power Foreign Policy" ended up being selected for presentation at the Midwest Political Science Conference in Chicago.

The second year, presenting on the topic of my senior Honors thesis "The Eurasian Economic Union" I was able to be part of a group of Honors College presenters on a panel of Edgar Fellows from different disciplines, which led to a very interesting discussion during Q+A sessions. It was very nice to see people from my discipline, and other disciplines, come out to support the work that my presenters and I did. I appreciated the community coming out and having genuinely curious discussions about our topics of interests.

The Eurasian Union: Future of Integration or Failure in the Making

Maria Gershuni

Sponsored by Robert Goeckel

ABSTRACT

The idea of the Eurasian Economic Union, or the EEU, was first brought up by Kazakhstan's President Nursultan Nazarbaev in 1994. By 2015, the Russian Federation, Belarus, and Kazakhstan signed the Treaty for the Establishment of the EEU, making the idea a reality. The EEU currently occupies nearly 15% of the earth's land, and is the 12th largest economy in the world. However, very little is known about this integration project. Criticized as Russian President Vladimir Putin's pet project, and a hollow imitator of the European Union, the EEU now faces challenges of imbalance, inequity, and further integration. However, the economic bloc is poised to expand, with talks of incorporating Iran and Turkey into the Union. With the European Union weakened by this summer's Brexit, the question remains whether the EEU will take the opportunity to expand into new spaces or whether integration projects all around the world are stalled in the anti-integration political environment. Looking at the history, politics, and possibilities for the EEU, this analysis will examine the nuances of this largely unstudied organization and predict its future.

INTRODUCTION

Very little is known in the West about the Eurasian Economic Union (EEU or Eurasian Union), a single market between Armenia, Belarus, Kazakhstan, Kyrgyzstan, and the Russian Federation. However, many in Central Asia and Eastern Europe consider it to be the next stage in Eurasian development and cooperation. The lack of knowledge regarding the Eurasian Economic Union by American writers and scholars comes in part from the rapid and recent creation and evolution of the Union, and in part from the dearth of American geographical understanding. One of the more concerning issues regarding this paper was the lack of geographic knowledge of the EEU member states. This is particularly concerning since the regions of Central Asia and Eastern Europe lay directly in the interests of rising powers such as China and the Russian Federation. The Eurasian Economic Union is an example of the growing importance of the Eurasian region as it tries to assert itself in the international political order.

In 2011, when Russian President Vladimir Putin announced his plans to create a large scale integra-

tion project starting in the countries that previously made up the Soviet space, he called it "a future being born today" (2011). Embedded into the project was the hope that the EEU would become one of the poles of a multipolar world, a partner and a balancer to the European Union (EU) and the United States (Putin, 2011). Though the EEU and the EU are normative competitors, the idea behind the EEU and the inspiration for its institutions came from the EU. Like the EU, the EEU evolved from a free trade area in which duties and tariffs between nations within the area were eliminated. It then became a customs union, setting a common external tariff on imports from other nations. At the moment, both the EU and EEU are working on eliminating all non-tariff barriers between nations within the union, such as burdensome regulations and quotas. In his speech announcing the intention to create the EEU, Putin even praised the EU for their integration model, and specifically praised the Schengen Agreement: accords that allowed citizens of EU nations free movement between the borders of participant states (Putin, 2011). He explicitly stated the desire to recreate Schengen to some extent within the participating countries of



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the Eurasian Union, to allow for better movement of labor and capital between the nations.

However, in the summer of 2016, the integration projects seemed to face an irreparable blow when, in an unprecedented move, the United Kingdom voted to leave the EU. This led many to question the viability of long term integration projects and their attractiveness to member states. Since the Eurasian Economic Union was explicitly based on the model of the EU and often defines itself in relation to the EU, questions about the future of the EEU rose as well. Does Brexit spell bad news for the EEU, uncovering flaws with regional integration as a whole? Or was Brexit beneficial to the development of the EEU, exposing the flaws in a competitor's model and making the still unaligned nations of Eastern Europe more hesitant to pursue European Union membership, as some writers claim (Walker, 2016)? Furthermore, since much of the rhetoric of the "Brexit" vote was centered around a fear of migrants and refugees taking advantage of the free movement clause of the EU, will fear of backlash also prevent better implementation of free movement in the Eurasian Union?

The long term viability of the Eurasian Union, however, is unrelated to events going on in Britain. Though modeled on the European Union, various normative dimensions of the EEU are entirely different from the EU and, occasionally, go against the core foundation of the EU. Not only is the idea of a referendum on membership foreign to the centralized, authoritarian leaning leadership of most EEU member states, but technical implementation of EEU policies has not been sufficiently executed enough to produce a backlash. Long term viability of the EEU depends on the ability of its institutions to uphold their responsibilities under EEU treaties and the commitment of the leaders to pursue successful integration, not only in name, but in function.

The Eurasian Economic Union "stands a good chance of becoming an inalienable part of the new global architecture that is being created" (53), but needs to overcome significant hurdles stemming from its rapid integration and focus on solidifying cultural boundaries of "Eurasianism," versus creating longstanding norms and institutions (Podberezkin & Podberezkina, 2014). Using the lessons learned from EU integration, we examine the challenges faced

the Eurasian Economic Union and understand the changes that need to be implemented for the project to work. The unique aspects of EEU normative framework allow it to be an attractive option for countries wishing to engage in regional integration. But in order for the project to be sustainable, further deepening of integration must be paced more carefully, and the member states' leaders must be committed in projecting a unified, functional agenda for the future of the Eurasian Union.

EVOLUTION OF THE EEU

The idea for a concrete Eurasian Union was born even before 1994, the year when the President of Kazakhstan, Nursultan Nazarbayev, suggested creating a trade bloc and alliance structure he called "The Eurasian Union" (Yesdauletova, & Yesdauletov, 2012). The historical roots for creating the union stretch back to the Russian Empire, which existed from 1721 to 1917. Currently, all members of the EEU were once a part of the Empire or its protectorates, meaning they were economically subjected to the rulings of the central government in Moscow and in St. Petersburg. Some of the infrastructure that core EEU industries depend on was created during the days of the Russian Empire, such as the rail lines stretching across Central Asia (Cheng-Hin Lim, 2017). These rail lines provided the linkages among which the economies of the peripheral areas of the Russian Empire were connected to the center and along which the modern freight industry is being organized (Cheng-Hin Lin, 2017). The rising of the USSR, from the still-smoldering ashes of the Russian Empire, provided for the formation of the "Socialist Republics" within the USSR. These states, including Belarus, Armenia, Kazakhstan, and Kyrgyzstan were also subordinate to the central government in Moscow within the Russian Socialist Soviet Republic (Shkaratam, 2015). The economies of the socialist republics were integrated under a Communist system, but the partnerships were unequal and exploitative, and therefore, unattractive to attempt and recreate in a voluntary economic union (Shkaratam, 2015).

Almost immediately after the collapse of the USSR, attempts were made to facilitate cooperation among the now-independent states. The Commonwealth of Independent States (CIS) was created in 1991 with the participation of ten Former-Soviet republics.



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lics (Yesdauletova, & Yesdauletov, 2012). The focus of the organization was to provide a forum to discuss social issues such as human rights, and possible military cooperation (Yesdauletova & Yesdauletov, 2012). However, implementation mechanisms of the CIS were relatively weak and some CIS countries wanted further cooperation. In 1994, CIS countries started negotiations on a free trade area, but negotiations were only completed in 2011, when the CIS Free Trade Area was established by eight of the CIS member states (Radzievskaya, 2014).

However, individual members of the CIS were frustrated at the lack of immediate progress and began to pursue further economic integration (Radzievskaya, 2014). Russia and Belarus signed the Agreement on Establishing a Customs Union in 1995, which outlined their intention to work on harmonizing external tariffs. In 1996, Kazakhstan and Kyrgyzstan signed onto the Customs Union agreement, followed by Tajikistan in 1998. The Eurasian Economic Community was formed in 2000, with all five signatories of the Customs Agreement (Belarus, Kazakhstan, Kyrgyzstan, Russia, and Tajikistan) and three observer states (Armenia, Ukraine, and Moldova) in order to functionally set up the framework for a Customs Union. The Eurasian Economic Community worked on creating a streamlined procedure for currency exchanges, creating a common market for key industries such as energy and transport, and worked on increasing cross border entrepreneurship opportunities. In 2010, Belarus, Kazakhstan, and Russia finally created the Eurasian Customs Union.

As soon as the Customs Union was created, work began on further integration (Yesdauletova & Yesdauletov, 2012). In 2012, a Single Economic Space was created between the three Customs Union member states which aimed to remove all physical and technical barriers to movement of labor, goods, and capital. Both the treaty establishing the Customs Union and the Single Economic Space were terminated by the Treaty of the Eurasian Economic Union which was signed in 2014, and came into force on 1 January 2015. Armenia and Kyrgyzstan signed in January and August respectively and negotiations for Tajikistan's participation are underway as of 2017. Proponents of the project claim that the EEU is "viable" and not "declarative" like previous agreements such as the CIS (Radzievskaya, 2014, p. 7). Currently, the

Union encompasses 180 million people, stretches over 15% of the world's land (International Crisis Group, 2016). It spans 12 different time zones and is looking only to grow (Yesdauletova & Yesdauletov, 2012). Though Ukraine and Georgia withdrew from previous Eurasian cooperative agreements, in part because of obligations imposed by their EU Association Agreements, and in part because of conflicts with the Russian Federation, the EEU is considering countries such as Uzbekistan, Iran, and Turkey to be potential collaborators in the long run (Cheng-Hin Lin, 2017).

Two vital conclusions can be drawn from examining the historical legacy and recent evolution of the Eurasian Union. The first is that there is an underlying foundation of inequality embedded in the relationship between the nations of the Union. Relations between Russia and the nations in the periphery of the Russian Empire and of the USSR were exploitative and unequal. Therefore, critics both inside and outside the union were wary of any integration projects in the post-Soviet space because of the possibility of a resurgence of such relationships.

Some, like former Secretary of State Hillary Clinton, claimed that the Eurasian Union was simply an attempt by Russia to recreate the USSR "under the guise of economic integration" (Glazyev, 2015, p. 93). However, Russia quickly rebuked those claims. Membership in the economic union was purely voluntary, and based on mutual interests. Russian Presidential aide for the formation of the Customs Union between Kazakhstan, Belarus, and Russia, Sergei Glazyev said that:

"Unlike the EU or the US empires, which coerce other countries by force of arms and the power of their reserve currencies, Eurasian integration is a voluntary association of people who have lived side by side for centuries." (2015, p. 93)

He went on to further underscore the EEU's focus on individual sovereignty and mutual economic prosperity as the cornerstone of the EEU's creation. Putin specifically denied imperialistic accusations in his 2011 speech, saying that the EEU is not intended to be "fortress Eurasia" (Kazantsev, 2015, p. 215). Instead, the EEU is intended to be a link between Eu-



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rope and the Asia-Pacific, unified by common values and norms, and embracing of the liberal approach to integration.

In order to internally ameliorate fears regarding USSR re-creation, Belarus and Kazakhstan worked to make “equality” one of the principles of the EEU (Sevim, 2013, p. 53). Specifically, President Nazerbayev of Kazakhstan was cautious of allowing Russia too much influence in the Union because Kazakhstan is the only EEU member to share a long border with Russia, and has a sizable Russian population in the north (Nurgaliyeva, 2016). When signing the agreement to join the EEU, Nazerbayev assured his people that this was not a return to the Soviet era by asserting that Kazakhstan will act as a balancer to Russia in the EEU and will never be submissive to Russia (Nurgaliyeva, 2016, p. 94). At least on paper, there seems to be a genuine attempt to represent the Union as a partnership of equals without any hint of Soviet-ism.

The second conclusion to be drawn from examining the evolution of the EEU is that post-Soviet integration has been extremely rapid. For a project that often compares itself to the EU, the timelines of evolution couldn't be more divergent. The European Union began as the European Coal and Steel Community with the signing of the Treaty of Paris in 1951 (McCormick & Olsen, 2011). The European Union as it is known today was only established in 1993 by the Maastricht Treaty and it wasn't until the completion of the internal market in 1994, that the EU able to facilitate and regulate free movement of labor, goods, and services inside its borders. Furthermore, one of the core institutions of the European Union, the European Council, was only established in 2000, while the Eurasian Union equivalent was created immediately following the formation of the Customs Union.

The Eurasian Union integration pace is generally the result of a top-down process by governments who sought closer economic ties (Yesdaultova & Yesdauletov, 2012). Because industries such as natural gas and transport are partially or wholly owned by the state in Eurasia, the interests of these industries were heavily considered in the decision making process to integrate. Furthermore, integration occurred so rapidly that results from the previous stages of integration were impossible to measure before the next stage of

integration was pursued. This has had a tremendous impact on the creation of institutions and on output.

THEORETICAL BACKGROUND

In order to understand the process behind this rapid integration of the Eurasian Economic Union, we can look to the theoretical backgrounds of integration projects. Theories of international relations serve to explain the impetus behind the formation of regional organizations. The theories of international relations that will be examined in the context of the EEU are neo-liberal institutionalism, the functionalist theory of integration, transactional theory of integration, and neo-realism.

Proponents of the EEU claim that neo-liberal institutionalism serves as the foundation for the integration project, much like it did for the European Union project. Neo-liberal institutionalists claim that states overcome the anarchy inherent in the international system by creating governing institutions and ceding some sovereignty to these institutions (Keohane & Nye, 2012). These institutions, in turn, create rules and norms which states have to obey (Keohane & Nye, 2012). This theory contends that mutual prosperity, peace, and order will result from the creation of these governing institutions (Keohane & Nye, 2012, p. 163). The anarchy and instability resulting from the collapse of the Soviet Union allowed for some nations in the post-Soviet space to seek out order and peace through multilateral governance, and the creation of regimes and norms (“Introducing the Eurasian Economic Union,” 2014). Neo-liberal institutionalism is fundamental to all regional integration projects because it requires some seceding of sovereignty for mutual peace and prosperity. Economic integration through multilateral institutions allows for greater mutual prosperity because of the “economies of scale” argument, the principle that production costs can be saved by increasing demand for a good and its production (Rosencrance, 2012, p. 356). Therefore, increasing unfettered market access within Eurasia would be advantageous to producers and consumers, who would benefit from lower cost goods. The first few years of the project already saw an increase in prosperity, with trade within the Union increasing by 30% (Rosencrance, 2012, p. 356). Therefore, some neo-liberal institutionalists might



say that the rules regime created by the economic integration of Eurasia has worked.

Within liberalism, there are theories regarding the different paths that states use to integrate. In post-World War II Europe, Robert Schuman and Jean Monnet believed in sectoral integration of the economies of France and Germany (Monnet, 2014). They believed that integrating certain sectors of the economy, in the European case, coal and steel, would lead to peaceful relations between nations. The European continent had just come out of two world wars, and the plan, which became known as the “Schuman Plan” was the foundation of the European Coal and Steel Community (Monnet, 2014, p. 21). The Community, composed of France, Germany, Belgium, the Netherlands, Luxembourg, and Italy, was supposed to ensure stability and prosperity on the European continent by integrating some of their most vital industries (Monnet, 2014, p. 21). The Schuman and Monnet logic, though not explicit, was foundationally a part of the formation of the Eurasian Union.

The sectoral drive behind the Eurasian Union, however, was not coal and steel (Niemi, 2017). Rather it was natural gas and oil, the most important sector of Russia and the Central Asian economies. “Pipeline politics,” the political negotiations behind the acquisition and transport of oil and natural gas reserves in Eurasia, drove much of the original negotiations behind economic integration since it was the sector providing most of the funding to carry out further projects. The nationally owned natural gas and oil companies, Gazprom in Russia and KazMunayGas in Kazakhstan, required both business and governmental cooperation in order to extract natural gas and ship it to Europe. The Belarusian government is also a vital cooperater in pipeline politics, since pipelines running through Belarus allow gas companies to export their products to Europe. The Soviet Union meant pipelines could be built and run with the mandatory cooperation of all Republics involved and with assured stability. The break-up of the Soviet Union was an event akin to the Second World War, putting stability in Eurasia at risk, and therefore, Pipeline Politics would push for stability via economic cooperation.

Sectoral integration leads to the question of whether it was functional integration that drove the Eurasian

project. Functional integration, and its doctrinal successor neo-functionalism, say that integration is pursued in sectors where it is most profitable (Mitrany, 2014). Integration produces needs for other sectors to begin integrating that are related to the first sectors, or for political policy and governance to be created in order to better accommodate the integrated sectors. This effect is called “spill-over” and theorists like David Mitrany and Ernst B. Haas claim that spill-over was one of the driving forces behind the further integration of the European Union (Haas, 2014, p. 145).

In the Eurasian Union, one might be able to see functional integration in the oil and natural gas industry, spilling over into other industries such as transportation, shipping, and communications. The links that were formed between government officials and business leaders, during pipeline negotiations made it easier for connections to be forged in other industries that would be benefited by closer integration. The shipping industry is a prime example of this. Before the formation of the Eurasian Union, 98% of all trade between the Asia-Pacific and Europe went through the Suez Canal in Egypt (Lysokon, 2012, p. 7). However, the EEU’s focus on increasing the speed and lowering the costs of freight traffic will make shipping across land twice as fast and half as expensive (Lysokon, 2012, p. 7). Therefore, freight traffic is projected to rise by 490 million tons annually by 2020, four times the growth than in the years between 2000 and 2010 (Lysokon, 2012, p. 7).

This looks like sectoral spillover from original negotiations to integrate the oil and gas industry. However, it is very difficult to discern whether or not the Eurasian Union came as a result of functional integration, because the industries that were benefited from integration were government owned (Yesdauletova & Yesdauletov, 2012). While functionalism is supposed to be driven by demand from the industries and the “invisible hand” of the market determining which sectors are most benefited from integration, integration in the Eurasian Union has been primarily government driven (Yesdauletova & Yesdauletov, 2012). There has been benefits in industries, but those industries, such as rail traffic and natural gas, are owned by the government and therefore would naturally be privileged in government orchestrated integration. Furthermore, functionalist integration



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takes time to naturally progress, and, as we will see, the Eurasian Union has been integrating too quickly to let functionalism run its market-driven course. It is clear that functionalism is not the primary driving factor behind the creation of the Eurasian Union.

The transactionalist approach to regional integration explains the formation of the Eurasian Economic Union better. Transactionalism was a theory championed by Karl W. Deutsch in an attempt to explain the successful integration of the European community (Deutsch, 2014, p. 125). He claimed that integration was a long-term process that took place after sustained contact with people from different states, in key areas of political involvement. His theory “concluded that successful integration required a sense of community — a “we feeling” based on a common set of values” (Deutsch, 2014, p. 125). Deutsch also stressed the importance of transactions that political actors have prior to the integration project’s start. Political and business actors in Eurasia had prolonged contact with each other during the Soviet period. When the Soviet Union fell, their interactions continued and allowed for easy lines of communication between political boundaries, making integration negotiations easier.

Deutsch’s idea of a “we feeling” as a prerequisite to successful integration has been a vital factor to the drive behind Eurasian integration. The historical and cultural community stretching across Eastern Europe and Central Asia has inspired the doctrine known as “Eurasianism” (International Crisis Group, 2016). Eurasianism has its roots in the Russian diaspora that occurred after the Bolshevik Revolution (Niemi, 2017). Early Eurasianists, such as Nikolai Trubetzkoy and L.M. Gumilyov, believed there was a new Orthodox, Slavic center of civilization concentrated around Russia (Duncan, 2015, p. 102). Eurasianism rejects the notion of Euro-centrism, and does not regard Greco-Roman development as the start of all civilization (Radzievskaya, 2014). Russia and the Slavic lands are not on the periphery of Europe, the doctrine claims, but rather are in the center of their own “third way” of civilizational development (International Crisis Group, 2016, p. 7). Eurasianism also rejects the notion that there is a “high-culture,” which a culture consumed by the elites, and “low-culture” consumed by the masses (Radzievskaya, 2014, p. 80). Eurasianists believe that there is an accessible

Slavic culture that stretches across a “vast unbroken landmass bounded on its edges by the high mountain ranges of the Himalayas, Caucasus and Alps, and the large bodies of water like Arctic, Pacific, and Atlantic Oceans, and the Black, Mediterranean, and Caspian Seas” (Sevim, 2013, p. 52).

Eurasianists describe Eurasian culture as distinct from both the cultures of Western Europe and East Asia, as well as a mix of both (International Crisis Group, 2016, p. 6). It is traditionalist and conservative, valuing hard work and the family. It does not emphasize the importance of each individual, but rather stresses the importance of society as a whole. Some theorists also claim that Orthodoxy and Christianity is vital to Eurasianism, since Eurasian expansion stems back from the Kievan “Holy Rus,” and therefore, piety is considered a marker of Eurasian identity (Shkaratam, 2015, p. 29). Some Eurasianists reject Peter the Great as a national icon, because they believe he pivoted too far toward Europe, sacrificing the Russian soul in the process (Shkaratam, 2015, p. 30). However, Eurasianism also stresses the importance of economic and geographical ties with Europe, not rejecting the European continent completely, but acting as an equal partner while keeping European influences on culture at a distance (Shkaratam, 2015, p. 30).

Because Eurasianism is a theory without any set boundaries however, it has been difficult to define, resulting in diverging schools of thought. Vladimir Putin, for example, is considered by some scholars to be a “pragmatic Eurasianist,” because he has historically approached a balanced policy between outreach to the East and the West (Sevim, 2014, p. 47). On the other hand, far right Eurasianists such as Alexander Dugin, founder of the Eurasia Party and advisor to Vladimir Putin, approaches Eurasianism from a geo-political perspective (International Crisis Group, 2016, p. 5). Dugin and his ideological brethren, believe that the “Great Game” between major powers dictates Eurasia must rise to challenge the United States, which far right Eurasianists consider to be Eurasia’s chief civilizational rival. Far right Eurasianists further believe that the borders of Central Asia and Eastern Europe are artificially drawn and do not reflect the unified Eurasian civilization that resides in these regions, regardless of ethnic background (International Crisis Group, 2016, p. 5).



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Furthermore, there have been inconsistencies with using Eurasianism as the transactional basis for Eurasian Union integration. First, transactions between people of different Eurasian nations have been limited to the upper political and economic classes (Radzievskaya, 2014). Working class people, especially those engaged in agricultural industries which continue to make up a significant portion of the Eurasian economy, have had very little contact with peoples from other nations, especially in vast countries such as Kazakhstan and Russia (Radzievskaya, 2014). Furthermore, only 8% of Russians polled in 2013 view all ethnic groups within Russia, including Kazakhs, Uzbeks, Armenians, and Belarussians, equally (Sakwa, 2015a, p. 21). There was a clear preference in the poll for European-looking Russians, which seems to stand in clear objection to the founding principles of Eurasianism. It seems that Eurasianism is a doctrine most easily embraced by the upper political and economic classes, who have had substantial interaction with other Eurasian nations and stand to benefit from political and economic integration.

The doctrine of Eurasianism, around which the “we feeling” of transactional integration is centered around has been imposed top-down on the populations of Eurasia by being peppered into the rhetoric of speeches and policies of national leaders. Eurasianism has been at the center of Nazerbayev’s “multi-vector foreign policy” for Kazakhstan since he first became President in 1991 (International Crisis Group, 2016, p. 5). Putin believes that it is the role of the Eurasian space to be the bridge between the East and West (Cheng-Hin, 2017). However, this sentiment is not commonly held among the people in their nations, whose memory of a united Eurasia is limited to the Soviet experience, and therefore Eurasianist has had to be reinforced by government policy. This is not to say that it is impossible for carefully crafted policy initiatives and cultural programs imposed top-down to stir Eurasianist sentiment among the people of the Eurasian Economic Union. However, since government-initiated community building projects are not the natural progression for the creation of Deutsch’s “we feeling,” the Eurasian Union would have to be an experiment in top-down imposed identity.

Finally, we can look to the theory of neorealism in order to explain the drive behind integration in Eurasia. Many critics of the Eurasian Union Project claim

that it is a product of geo-political, realist thinking. Nicolas J. Spykman, American realist thinker and the “godfather of containment” policy during the Cold War, once famously said, “Who rules Eurasia, controls the destinies of the world (Sevim, 2013, p. 45).” Russia has been accused of following this logic through neo-imperialist methods, by using economics rather than military might to tighten connects between the member states of the Eurasian Union (Sevim, 2013, p. 45). Some have also accused Russia of following a neo-revisionist doctrine by undermining the liberal economic order from within in order to follow a realist agenda (Sakwa, 2015b, p. 163).

Neorealism acknowledges the existence of multi-lateral institutions such as the Eurasian Union, but believes that these organizations only reflect current power dynamics and do not have an influence on policy making. Applying this theory to the evolution of the Eurasian Union makes several key assumptions. First, it rejects the notion of Eurasianism as a genuine driving force behind the integration or claims it is being applied “defensively,” as to avoid criticism of neo-imperialism (Podberezkin & Podberezkina, 2014, p. 7). In fact, some critics dismiss the notion of Eurasianism in general claiming there are “no unifying ideas in Eurasianism, but only geographical convenience with a whiff of transnational imperialism” (Podberezkin & Podberezkina, 2014, p. 7). Neorealism also assumes that Russia, as the wealthiest and most militarily advanced country in the Union, is the center of the integration project and the rest of the members as akin to “satellite states” (Standish, 2015). This approach dismisses the large influence of Kazakhstan in the creation and evolution of the EEU. However, examining the institutions and politics within the EEU will reveal the power dynamics, relative benefits of cooperation, and may shed light on the theories used.

INSTITUTIONS

The head executive and bureaucratic arm of the Eurasian Economic Union is the Eurasian Economic Commission (International Crisis Group, 2016, p. 9). The Eurasian Commission was modeled on the European Commission, which governs the European Union. The Commission was originally started to govern the Single Economic Space in 2012, and was incorporated into the governing structure of the



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EEU with the 2014 Treaty on the EEU. The Commission currently has approximately 2,000 staff working for it and is headquartered in Moscow, although the Moscow headquarters are not meant to be permanent. Currently, the Commission is tasked with running the day to day operations with the Union, allocating budgets, solving sectoral issues, and upholding EEU treaties.

At the moment, there are approximately 2,000 staffers at the EEU headquarters, and it has two main organs: the Council of the Eurasian Economic Commission and the Board of the Eurasian Economic Commission (“Struktura,” 2017). The first is the Council of the Eurasian Commission, which is composed of the Deputy-Prime Ministers from each members state, who share a rotating president between them. The Council has the primary function of approving decisions made by the Board, and has the power to veto decisions made by the Board. However, this rarely happens because decisions on the Council are reached by consensus. The Board of the Eurasian Economic Commission is made up of 14 Ministers of the Board, three from each member state and two from Kyrgyzstan. Working under the Board of Ministers are bureaucrats from 23 functional departments, such as the Department of Energy and the Department Antimonopoly Regulation, which each Minister heads. Decisions within the Board of the Eurasian Commission are made based on Qualified Majority Voting, where each minister has one vote. Decisions the board makes are binding if they are agreed to by two-thirds of the Ministers. While these two bodies make decisions regarding day-to-day operative policies of the EEU, anything big or controversial gets sent up to the Council of the Eurasian Union.

The Commission of the Eurasian Economic Union has the power to truly be a supranational institution (Yesdauletova & Yesdauletov, 2012). With its decision making, it can move power away from federal governments and into the multilateral institutions. However, it faces some challenges. First, the Commission does not have any real sanction power (International Crisis Group, 2016, p. 10). It mostly enforces its decisions though peer pressure and political leverage (International Crisis Group, 2016, p. 10). Furthermore, it is difficult for the Commission to operate as a rules based organization because it often

sidelined by political leaders who want to make deals rather than follow rules (International Crisis Group, 2016, p. 9). Therefore, an excessive amount of issues get bumped up to the level of the Supreme Council of the Eurasian Union because political leaders primarily use that as a forum for negotiating acquisitions and concessions.

The Supreme Eurasian Economic Council is the highest level organ of the Eurasian Union. It is based off of the European Council, where European heads of government meet to discuss the direction and strategic planning of the Union. The Supreme Eurasian Economic Council also facilitates meetings between the heads of government of Armenia, Belarus, Kazakhstan, Kyrgyzstan, and the Russian Federation (Eurasian Economic Commission, 2015). The Supreme Council is tasked with determining the future prospects of the EEU, including further areas of integration, possible new members, and current projects (International Crisis Group, 2016). The Council is also responsible for approving the budget and determining the contribution of member states (Eurasian Economic Commission, 2015). However, while in the EU, the European Council is one of the many important organs of the EU, and the Supreme Eurasian Economic Council is considered the “main body” of the EEU (Eurasian Economic Commission, 2015). As previously stated, the Supreme Eurasian Economic Council is delegated tasks from the Commission and makes most of the key decisions inside the Eurasian Union (International Crisis Group, 2016, p. 9). Because the Supreme Council gets heavy use inside the EEU, the decisions within the EEU are made by compromises between the heads of states. This robs the EEU bureaucracy of the same agency and influence their EU counterparts have.

The EEU also has a court modeled on the European Court of Justice (ECJ) (Eurasian Economic Union, 2015). The Court of the Eurasian Union was originally founded in 2010 as part of the Eurasian Economic Community, and like the Commission, was incorporated into the Eurasian Union in 2015. The Court is composed of two judges appointed by the Supreme Eurasian Economic Council from each member state, who then serve nine-year terms on the court. The Court has a similar mandate to the ECJ; it’s charged with ensuring the uniform application of



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EEU treaties among member states. All the court's rulings are, in theory, supposed to be public.

However, the Court has gotten no use since its foundation. As of 2016, the court has not been used once (International Crisis Group, 2016, p. 10). Considering the lack of news regarding court rulings, and the empty "summary" and "acts of the court" pages on the website of the Court of the Eurasian Union, it seems that the court has not been active in 2017 either (Eurasian Economic Union, 2015). Private parties are hesitant to use the Court of the Eurasian Union because they prefer to settle out of court and out of the public eye (Dragneva & Wolczuk, 2015). The member states of the EEU have not used the court to settle disputes among each other, preferring other means to dispute settlements such as going through the head of state meetings in the Supreme Economic Council.

It is also telling to see which EU institutions have not been adopted into the framework of the EEU. The EEU has no parliament, meaning it has no directly elected body. Russia has been at the forefront of calling for the creation of a EEU parliament as one of the legislative institutions of the EEU (Maloof, 2012). Putin is reportedly pushing "full speed ahead" in preliminary negotiations for the creation of such a body (Maloof, 2012). However, Russia is receiving pushback from Kazakhstan and Belarus who believe that the creation of a parliament is "premature" and do not foresee the creation of a directly elected body in the foreseeable future. It should be noted that if the EEU parliament adopted the EU Parliament's proportional representation model, the Russian Federation would retain the most seats out of all EEU member states. It should further be noted, however, that the EU Parliament is considered to be the most supranational body of the EU, bypassing the federal governments of the EU member states entirely with direct elections (McCormick & Olsen, 2011, p. 29). Though Russia might be hoping to capitalize on their large population in order to control an EEU institution, their push for supranational is noteworthy.

The EEU also does not have a common currency, unlike the Eurozone within the EU which does. Despite the fallout from the Eurozone crisis, plans for creating a new Eurasian common currency are projected to be completed by 2025 (Sudakov, 2014).

There are proposals for the currency to be called the "altyn" after the currency that was used at the time Golden Horde, the Mongol Empire that controlled vast swaths of Eurasia (Sudakov, 2014). The imagery evoked on currency is symbolic of the culture that uses the currency. The European Union, for example, has banknotes highlighting European architecture from throughout the continent. The fact that the proposed currency is named after the Mongol Empire, as opposed to something reminiscent of the Kievan Rus for example, can be indicative of the definition of Eurasia lying closer to the heart of nomadic culture, as opposed to a more Western orientation. However, the name of the currency has not been set in stone. Some proposals had the currency called the "Yevraz," after the Slavic pronunciation of "Eurasia" as "Yevrazia" (The Moscow Times, 2015). Whatever name the Eurasian Union chooses will not only reflect economic unity, but will also further reflect on the definition of Eurasianism. President Nazarbayev believes that one day, the currency, regardless of what it's called, will one day enter into the world as a reserve currency, further bolstering the power of the Eurasian region (Sudakov, 2014).

By examining the institutions created, and not created, by the Eurasian Union, one sees both neoliberal and realist influence. Missing, so far, is the transactional influence that would have united the region under Eurasianism. Depending on how the monetary union project progresses, Eurasianism could manifest itself in both the use and the design of the common currency. There have been some neoliberal institutionalist progressions made in the formation of the Eurasian Economic Commission, which seems to have an infrastructure that is capable of dealing with sectoral issues. However, the accusations of realist power politics manifest themselves in the activity of the Supreme Eurasian Economic Council, which bypasses the Commission's bureaucratic structures and allow for federal politics to manifest themselves in the multilateral organization. However, the realist assumption that the Eurasian Economic Union is simply run by the Russian Federation is undercut by the failure of the Russian Federation to push through their agenda to create a Parliament. Therefore, with significant reform to overcome obvious shortcomings, the Eurasian European Union has the institutional capacity to be an effective organization. This,



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however, would require deep commitment from its leaders to further increase the EEU's viability.

FOREIGN PARTNERSHIPS

At the moment, the Eurasian Union is surrounded on both sides by global powers. On the west, the European Union and the Eurasian Union are engaged in a "normative rivalry," in which they compete for influence in a rules based regime (Dragneva & Wolczuk, 2015). On the east is the rising power of China, which also has initiatives and ambitions in Eurasia (Yesdauletova & Yesdauletov, 2012). Ideally, the Eurasian Union is looking to keep a balance of power among the three, remaining within the cooperative nature of multilateral institutions. However, because both the European Union, the Eurasian Union, and China hope to expand their influence, they often find themselves in competition with each other.

China is a rising power that is starting to look to the Eurasian region as a partner, and sometimes, rival for expansionist influence (Cheng-Hin, 2016). Today, China is the EEU's largest trading partner and has strong bilateral relations with individual members of the Union. Kazakhstan and China have just successfully completed a massive rail project that now connects the two countries. China has also given Belarus 5.5 billion USD in loans and conducts approximately 4 billion USD in trade with Belarus annually. Russia and China have collaborated on the New Development Bank made up of the BRICS countries of Brazil, Russia, India, China, and South Africa. Cooperation has been so strong that China and the EEU are now in talks to create a free trade zone in the near future.

However, it is unlikely that China would ever become incorporated into the EEU (Glazyev & Tkachuk, 2015, p. 81). Fundamentally, China is a competitor in the Central Asian space for influence. China is planning on creating the "Silk Road Economic Belt," a trade and cultural exchange initiative that is meant to develop infrastructure and bi-lateral relations between nations along the path of the Silk Road and China. China has planned investment into cities along Mongolia, Kazakhstan, and along the Middle East, to the Caspian Sea. Because the initiative is still new, and the EEU has not entered into any formal talks of association with candidate countries

that could potentially receive Chinese investment funds, the partnership between the EEU and China has been amicable. However, as both entities seek to expand their influence, the positive relationship may not last.

The relationship between the EU and the EEU has been far more tense. In Putin's speech announcing the intention to create the EEU, he claimed it would be a partner to the EU (Putin, 2011). Proponents of the project claim that the EEU is complementary, not rival to the EU (Dzarasov, 2015, p. 125). However, in practice the EU and the EEU have been clashing in the shared neighborhood of Eastern Europe (Dragneva & Wolczuk, 2015, p. 6). The European Union is facing its own crisis with a flood of migrants, uneven economic development, and the rise of far right parties (Dragneva-Lewers & Wolczuk, 2015). However, Europe still is more attractive with potential candidate countries than Russia (Seten, 2015). To combat this, the EEU has created a normative framework that is more appealing to Eastern Europeans than the EU's framework in order to gain further partners and candidates (Seten, 2015).

One of the sources of tension between the EU and the EEU is the proliferation of EU Association Agreements (Sala, 2015, p. 165). Inside the EU these agreements are viewed as declarations of friendship, as well as affirmations that a state might eventually join the EU (Sala, 2015, p. 167). However, there have been some states who have signed the Association Agreements that have been consistently rejected in their applications for membership. Turkey has had an Association Agreement with the EU since 1963 and is currently in its fifth decade of waiting for EU membership approval (Onis, 2004). Dutch voters recently held a non-binding referendum, rejecting the opening of any negotiation chapters that would allow for the eventual membership of Ukraine, which signed the Association Agreement in 2014 (Dragneva & Wolczuk, 2015). The EU requires countries wishing to sign an Association Agreement to reform their government and economic systems, engaging in democratization and aligning itself closer with the rules of the EU, without allowing the associate members much say in the process (Dragneva & Wolczuk, 2015). Furthermore, the EU requires that Associate Members do not participate in any other regional trading blocs, preventing Eastern European countries



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from becoming observer states in the EEU while also seeing associate EU membership (Dragneva & Wolczuk, 2015).

To combat this, the EEU has created a framework that would make it easier to states to join without conducting much internal reform. The EEU does not allow for Association Agreements, but does grant countries observer status in the bloc (Morgan, 2017). It also does not explicitly prohibit its members from signing Association Agreements with the EU (Dragneva & Wolczuk, 2015). In the EU, a set of criteria labeled the “Copenhagen Criteria,” outline democratic standards that countries have to meet before they can ascend to membership (McCormick & Olsen, 2011, p. 81). The Eurasian Union has no such criteria and only requires that a country be able to take on the full set of agreements that were already adopted by the Eurasian Union (Dragneva & Wolczuk, 2015, p. 9). Finally, the EEU is willing to offer small countries a seat at the table of negotiation and a more equal status than they would have received in the EU (Dragneva & Wolczuk, 2015, p. 9). This approach seems to have a degree of appeal. Moldova, a country once thought to be firmly on the side of Europe, has now applied for and was granted observer state status in the EEU on April 18, 2017 (Morgan, 2017). Though the country still claims that it will maintain the viability of their EU Association Agreement, it was noted that Ukraine was forced to give up observer status in the EEU in order to be granted EU associate membership (Petro, 2013). It is now up to the EU to decide how they will react to Moldova’s observer status. However, one fears that escalation of this dispute to the level of the Ukrainian conflict, which revealed some of the weaknesses in the unity and the governing framework of the EEU.

CRITICISMS AND CRISES

Though the EEU has made some strides toward progress, it is severely hampered by its lack of institutional capacity. This has severely weakened both the ability of the EEU to implement some of its more ambitious policies, as well as respond to crises. As stated before, integration was very rapid. Though this allowed for the countries within the Union to solidify their definition of Eurasia, and enter into a normative rivalry with the EU, it didn’t allow for a natural evolution that would have allowed for more

effective governance. First, it prevented policymakers from examining the benefits and drawbacks of the previous form of integration before moving onto the next one (Yesdauletova & Yesdauletov, 2012, p. 8). Second, it rushed the creation and evolution of the Eurasian Commission, preventing the formation of a robust and egalitarian bureaucracy that would have allowed for more supranational and equality among EEU members.

While the EU was allowed to functionally integrate from the European Coal and Steel Community to the European Economic Community, and eventually to the European Union, the EEU did not have that benefit. The transactional ties formed over natural gas and oil partnerships could have been a solid foundation for a hypothetical Eurasian Natural Gas and Oil Community, however, it was not enough to form ties over many various industries. Within the EEU, there are simply “too many economic sectors requiring too many regulations” and not enough time to determine the best course of regulation for them all (Yesdauletova & Yesdauletov, 2012, p. 10). There have been benefits to some industries that were mostly owned by the state, such as transport and heavy engineering firms, but overall growth has slowed down (Standish, 2015). Seeing stagnation this early in the development of an integration project could spell trouble for the future unless reforms are pursued.

The rapid speed of integration has also prevented the creation of the robust institutions that are required to fix these problems. The Eurasian Commission has the staff and structure capable to work on ameliorating issues that come with rapid integration. However, the overwhelming focus on state sovereignty within the EEU has weakened the Commission and given most of the power to the Supreme Eurasian Economic Council. Though the Commission is a rules-based organization capable of decision making, decision making is not at the core of the former Soviet space (Dragneva & Wolczuk, 2015, p. 9). Instead, decisions are delegated to the highest level possible, which in this case, is to the heads of state (Dragneva & Wolczuk, 2015, p. 9). This limits decision making to top-down deal making, at the highest level of governance.

Delegating all decisions to the highest possible authority can further create mistrust and suspicion be-



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tween states (Yesbayeva, Delovarova, & Momynkulov, 2013, p. 476). Some Kazakhs feel that they have lost out on key decision making processes within the EEU and guard their sovereignty cautiously (Yesbayeva, Delovarova, & Momynkulov, 2013, p. 477). Some argue that national interest should always take priority over integration because they fear a return to the Soviet days (Yesbayeva, Delovarova, & Momynkulov, 2013, p. 477). Worse, some fear that Russia will attempt to annex some of the Russian ethnic majority areas in Northern Kazakhstan, just like Russia annexed Crimea (“Introducing the Eurasian Economic Union,” 2014). These fears force Kazakhstan’s leaders to stall on political integration and ensure that the EEU stays purely economic, halting projects like the Eurasian Parliament (“Introducing the Eurasian Economic Union,” 2014). Because the bureaucratic and institutional structure of the Eurasian Union is weak, power politics and realist fears are allowed to flourish. It is clear that on a Council where the heads of state are the only members, Putin, the most powerful man in the world according to *Forbes* (“The world’s most powerful people 2016,” 2016), would reign supreme. However, if the bureaucracy played a more important role in decision making, then the Kazakhs (and Byelorussians and Armenians), who are well-represented in the Councils and Boards of the Commission, would no longer feel like they are losing out on key decisions.

These institutional setbacks harm the way that the EEU is able to respond to crises (Petro, 2013). No discussion of the EEU is complete with analyzing the setbacks it faced in the lead up and the aftermath of the Ukraine crisis. Ukraine’s ousted President Yanukovich was weighing the costs and benefits of joining either the Eurasian Customs Union or signing an Association Agreement with the European Union when the crisis took place. Yanukovich abruptly pulled out the EU negotiations in favor of a deal closer to Russia and the Eurasian Union.

Supporters of this plan offered similar incentives to the ones mentioned before. Ukraine, EEU proponents argued, “should be the cradle of Eastern European civilizations, not on the outskirts of other European powers” (Fesenko, 2015, p. 126). Some Russian economists claimed that “the invisible hand of the market” guides Ukraine toward Russia and Ukraine would be better off as a member of the EEU than

with an EU Association Agreement. The Ukrainian shipbuilding, aircraft, and mechanical engineering industries, economists claimed, would all benefit significantly within a decade of joining the Union (Seten, 2015). Furthermore, supporters of Ukraine’s pivot to the EEU said that the EU wasn’t offering Ukraine membership, and that Ukraine would have significantly more political power in the institutions of the EEU (Dragneva & Wolczuk, 2012, p. 13). Critics of the EEU pivot claim that even under the pro-Russian Yanukovich, Ukraine never made clear commitments to join the EEU and only wanted partial membership at best (Dragneva-Lewers, Rilka, & Wolczuk, 2015).

However, the abrupt shift away from the European Union angered the Ukrainian population and the move prompted the Euromaidan protests that ousted Yanukovich and caused Russia to annex Crimea (Fesenko, 2015). This resulted in Russia annexing Crimea in order to protect their interests on the peninsula, which resulting in the EU levying heavy sanctions against Russia. Russia’s response in turn was to create sanctions against the European Union. In the fallout, “the Kremlin hasn’t streamlined its political incentives with its economic partners,” leading to an inability to coordinate successfully retaliatory sanctions (Seten, 2015). Russia had to reinstate border and customs controls in 2014 on the Russian-Byelorussian border because Russia was accusing Belarus of allowing European goods to flow into Russia by mislabeling them as Byelorussian (Niemi, 2016). Kazakhstan has refused to end business and trade with the European Union, despite Russian requests to do so (Furman & Libman, 2015). The EEU has been entirely unhelpful in resolving trade related disputes stemming from the Ukraine crisis, because it has not had the institutional capacity to do so. Since most of the controversial decisions were delegated to the heads of state, national interests took precedence over any issue, hampering any dispute settling function the EEU could have had.

What is possibly more concerning is the fact that the EEU institutions are incapable of overcoming sovereign conflicts that prevent effective implementation of existing policies. An example of institutional deficit is evidenced by the restrictions placed on the free movement objective of the EEU. Putin openly praised the Schengen Area within the EU for



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facilitating free movement of labor between countries (Putin, 2011). He and the EEU leaders hoped to create the area within the EEU. Free movement of labor within the EEU would benefit Russia, since it is the second largest importer of labor, after the United States and has an aging population similar to that of Europe (Yesdauletova & Yesdauletoy, 2012). Furthermore, the labor exporting Central Asian republics, as well as some countries in Eastern Europe, would be able to profit on remittances and ensure safer, easier passage of their population to and from the Russian Federation (Yesdauletova & Yesdauletoy, 2012). For these reasons, border controls were eliminated in 2011 in order to facilitate better free movement of labor between the countries of the Eurasian Economic Community (Radzievskaya, 2014). “Free movement” became one of the core objectives of the Eurasian Economic Union, embedded into its founding treaty (Dragneva & Wolczuk, 2017). However, the agreement on free movement has not been applied practically, and therefore remains mostly declarative (Radzievskaya, 2014). On paper, any citizen of any of the EEU member states can live and work in any other EEU member state. However, those attempting to do so will be faced with domestic bureaucratic restrictions that make it very difficult to move to a new county, much less a new country.

Many of the problems regarding free movement arise from strict and arcane registration systems that began in the Russian Empire after the liberation of the serfs (Dragneva & Wolczuk, 2015). In order to prevent mass migration of peasants to urban centers and prevent the creation of slums, the Imperial Russian government created a registration system, called the “propiska” system, that tied someone’s ability to receive social services based on their permanent place of residence (Schenk, 2015). It was difficult and expensive to change one’s registration, especially if one wished to move from the countryside to the city. The USSR kept this policy in order to control population flows and ensure the viability of collective farms (Schenk, 2015). After the fall of the USSR, Belarus, Kyrgyzstan, and Russia chose to keep their registry systems in order to continue maintaining control over population flow (Schenk, 2015). Therefore, a Kazakh national who chooses to live and work in St. Petersburg must go through a bureaucratically difficult, and expensive place of registry process, or risk

not having access to education, healthcare, and legal employment services (“Russian ombudsman,” 2007).

The EEU has not addressed these registration systems in their negotiations over free movement. It is within the national interests of Russia, Belarus, and Kyrgyzstan to keep their registry systems because it collects revenue from registry permit fees and allows government intervention into movement within their own countries. Because of the focus on sovereignty within the EEU, national interests are allowed to reign supreme over the interests of the trading bloc. Therefore, even a fundamental tenet like free movement of labor across borders, that might be mutually beneficial to all parties involved, is subject to restriction at the domestic level.

PROSPECTS AND RECOMMENDATIONS

At the moment the EEU has massive potential to be a successful trading bloc and integration project (Niemi, 2016). There are multiple positive prospects that currently exist within the EEU. For example, the Eurasian Economic Commission has the staff framework present within its numerous, specific departments to solve trade-related problems. The EEU treaty specifically doesn’t allow for states to have reservations to EEU agreements, so states cannot “opt out” of measures that the EEU creates (Dragneva & Wolczuk, 2015). This is a big step toward creating a rules-based multilateral regime. Furthermore, the EEU is currently working with the WTO in order to remove protectionist measures and receive the same voting rights within the WTO as the EU has (Dragneva & Wolczuk, 2012). This shows that progress is possible within the framework of the EEU.

But in order for the EEU to continue move beyond its current stage and provide maximal prosperity for all its members, it needs to move away from geopolitics and focus on governance (International Crisis Group, 2016, p. 22). Geopolitics simply breeds realist fears about hostile takeovers and unequal partnerships, which does not bode well for collaboration. In order for the EEU to reach its potential, the leaders of the Union must commit to neoliberalism and strengthen the institutions in which they have invested. Of course, hints of power politics will always be embedded into the project, but leaders must



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recognize it is in everyone's best interests if decision making mechanisms were strengthened and issues of inequality were resolved.

The European Economic Commission must be made stronger and be reformed to give it the capacity and political clout to tackle non-tariff barriers and protectionism within the Union (International Crisis Group, 2016, p. 22). Issues should not be simply delegated up to the Supreme Council, but dealt with along the channels that were created for its purpose. This will increase the efficiency and prosperity of the EEU because the Commission is staffed with experts in economics and trade specifically, and would be able to craft effective policy. The Court of the Eurasian Union must also be put to use for both private parties and states wishing to settle disputes (International Crisis Group, 2016, p. 22). Finally, the Union should orient itself to deal further with problems of social welfare and standard of living across the Union, along with fixing the broken migration and free movement architecture (International Crisis Group, 2016, p. 22). Improved social wellbeing as a result of the Union will mobilize the masses in support of the EEU in an organic manner which the doctrine of Eurasianism has failed to do among the populace (Sakwa, 2015b, p. 167). Improving migration and free movement architecture and allowing it to go into practice will also benefit the Union, as it will attract smaller countries who wish to benefit from the Russian labor import market (Schenk, 2015).

Until structural reforms happen, it would be wise to pace integration. Before the monetary union, which would be in effect once a common currency is established, is created, results from the common market should be measured. Before the results from the common market could be measured, the common market needs to function properly. The tenets of the common market should be fulfilled before the next step of deeper integration is pursued. Therefore, until proper institutional reform is implemented which allows the original goals that drove integration to be realized, the EEU should not pursue a monetary union. Though the timeline of EEU integration does not have to exactly follow the timeline of the EU, EEU leaders should keep in mind how long it took for the EU to create the institutions that it currently functions under.

However, in regards to horizontal expansion, and adding the new members, the EEU needs to actively continue seeking possible applicants. Because its normative rivalry with the EU and the potential threat of a rivalry with China, the Eurasian space must be a competitive one. In order to do this, the EEU must capitalize on what makes it a unique project and different from the EU and China's potential Silk Road Initiative. The framework for the EEU already is in place, putting it in a normative advantage over China's stalled Silk Road project. Furthermore, the EEU must exploit its focus on sovereignty and lack of democratic requirements. This can make it an attractive project to new or incomplete democracies whose leaders are not willing to commit resources and political risk to "Europeanizing" their governments. From a non-Western perspective, the idea of a multilateral institutions that does not interfere with domestic politics can be very attractive. The EEU has great potential with countries such as Iran, Azerbaijan, and Uzbekistan. These countries, which would never have even been considered as European Union members present an opportunity for enlargement and political allies in Asia.

Turkey also presents a potential opportunity for EEU expansion. Once thought to be firmly a candidate for EU membership, Turkey has veered away from the liberal democratic principles of the EU and is charting its path closer to the partial democracies of the EEU (Kirisci, 2016). Turkey signed the Association Agreement with the European Community in 1963, and has since applied for membership twice and been rejected (Redmond, 2007, pp. 305-317). It seems that the Turkish public is becoming less enchanted with the EU with favorability ratings of the EU among Turks falling (Dagdeverenis, 2004). The Turkish government is also turning away from Europe. President Erdogan has used the summer 2016 coup attempt to crack down on political dissent and consolidate his power, despite various condemnations of his actions by EU governments (Kirisci, 2016). Furthermore, the European Parliament has voted to suspend all further accession negotiations with Turkey, making Turkish membership in the EU unlikely in the near future (Kanter, 2016).

This is the ideal space for the EEU to move in and attempt to forge ties with Turkey. Turkey and Kazakhstan already have longstanding relations, collaborat-



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ing on oil and natural gas pipelines (Nurgaliyeva, 2016). These oil and gas collaborations could serve as the basis for further negotiations, as they had in the rest of the EEU. In 2014, Turkey even began working on establishing a free trade area with the Eurasian Economic Community. However, negotiations stalled when Turkey shot down a Russian fighter plane, heading to Syria, leading to tense relations between the two countries in 2015 (Genc, 2016). Today, however, relations between Turkey and Russia have “normalized,” and might have strengthened after the Russian Ambassador to Turkey was shot by an ISIS operative, bringing the two countries together in their aims of fighting Islamic terrorism (Genc, 2016).

Some Turkish scholars have embraced the concept of Eurasianism and have started turning away from Europe (Tanrisever, 2015). Turks are starting to look to the Turkic communities in Central Asia to historically and culturally bind them to the rest of the Eurasian nations (Tanrisever, 2015). However, in order to fully embrace Turkey into the Eurasian community, Eurasianism must be redefined. Some scholars view Christian Orthodoxy as essential to the Eurasian identity, a qualification that stands at odds with the Muslim population of Turkey (Radzievskaya, 2014). If the Eurasian Union embraces a definition of Eurasianism free from religious constraints however, using the social welfare focus to gain popular support among citizens rather than an appeal to religious fervor, they have much to gain. Turkish membership would be a victory in the “normative rivalry” between the EEU and the EU. Turkey would be the second largest economy in the bloc and act as a balancer to Russia’s power, ensuring that it would be difficult for one nation to dominate the bloc (Nurgaliyeva, 2016). Furthermore, Turkey’s strategic location would provide the EEU with access to the Mediterranean and a gateway to the rest of the Middle East. The current government in Turkey might also be incentivized by the lack of democratic requirements to join the EEU, allowing the Turkish government to continue to pursue its current path of power centralization. If the EEU pursues, and successfully convinces Turkey to accept Europe’s rejection and join the Eurasian bloc, it would be a great victory for the EEU.

CONCLUSION AND FURTHER QUESTIONS

The world is being divided into areas governed by different sets of norms that will either collaborate or rival each other (Lukyamov, 2015). The ability to persuade other nations to adopt a particular set of norms is becoming the new test for the influence a nation has in the international system (Lukyamov, 2015). The EEU will be a test of Russia’s ability to create an organization that is attractive to other nations, led by a “third way,” Eurasian set of rules and norms that stresses economic cooperation, while maintaining sovereignty and disregarding democratic development. Creating this attractive institution requires both a focus on building a Eurasian community and building the viable institutions that would be able to facilitate economic prosperity.

The focus on building and solidifying the borders of a “Eurasian” community was a major driving force in the creation of the EEU. However, the rapid pace of integration that resulted from this transactional drive came at the expense of viable and functioning institutions. The lack of a single case presented to the Court of the Eurasian Union shows that the rules based regime that Putin, Nazerbayev, and Lukashenko were attempting to create needs work. Because of the lack of institutional framework, power politics are allowed to flourish, reviving old Soviet-era fears about the dominance of Moscow. However, if a commitment to liberal institutionalist reforms that prioritize rules based decision making over striking political deals are made, the EEU has a chance to flourish.

The EEU has potential for growth, but needs solid institutions in order to compete with its normative rival the EU and the growing power of China. However, that would be very difficult if the EEU cannot manage its own crises or even fully implement a core agenda, such as free movement. Reform requires commitment from the leaders of the countries involved. But, if they realize the type of potential the EEU can have in the international system, even the leaders of these authoritarian-leaning countries can act in a collective best interest and improve the institutions of the EEU.

For future study, the most pertinent question rising out of this analysis is why exactly the staffers at the



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Eurasian Economic Commission delegate so much responsibility up the level of the Supreme Economic Council? Were they instructed to do so by their superiors? Is economics considered “high politics” in post-Soviet regimes, and therefore only heads of state are allowed to make final decisions on it? Or is there simply self-censorship in the ranks of the Commission, when they fear retribution if they act too decisively on a core matter? Currently, no literature on this exists and learning more about the inside mechanisms of the Commission and the Council and the project would be a massive undertaking. However, understanding the internal decision making structures of these organizations would allow for the creation of better modalities to ameliorate problems of ineffectiveness and inequality.

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An Interview with Colleen Steward

Hometown:

Gowanda, NY

Major:

Biochemistry

What have you been up to since graduating from Geneseo?

I am an aspiring biomedical researcher. After graduating from Geneseo, I plan on pursuing a PhD program in biochemistry. My long-term career goal is to conduct research at an academic institution while sharing my passion for science with undergraduate students as a professor.

Why do you feel that GREAT Day is important?

I believe the importance of GREAT Day is two-fold. GREAT Day strengthens our campus community by providing an opportunity to share our passions and projects. Students and faculty come together to support each other. Additionally, GREAT Day is a catalyst for professional development. The skill of presentation and clear communication is imperative in any job field and only comes through practice. In this way, I believe GREAT Day builds our campus community while preparing students to be successful after graduation.

What was your experience presenting your work at GREAT Day?

Presenting at GREAT Day is energizing. After spending long hours in the lab staring through microscopes and running reactions, it's fulfilling to be able to share and present our work. Packed with rows of posters and presenters, the ballroom is brimming with enthusiasm and energy on GREAT Day. It's a fun atmosphere to be a part of.

On GREAT Day, I love presenting to non-science majors the most. They may walk up to our poster thinking that they won't understand what we are working on, yet after our presentation, leave with a greater understanding and context for the applications of our research on biodiesel. For me, breaking the stigma that science is unaccessible or too abstract for people outside the field is especially rewarding.

Investigation into Cost Effective Cultivation and Biofuel Production from *Chlorella* Algal Species

Zoe Marr, Colleen Steward, & Barnabas Gikonyo

ABSTRACT

As resources for petroleum-based fuel become increasingly scarce, third generation biofuels, which utilize algae as a renewable feedstock, offer a promising solution. The problem hindering widespread marketability, however, is that current biodiesel production processes are expensive and lipid yields are inconsistent. Our research worked to make algae cultivation more feasible by focusing on both the growth of algae and its conversion to crude biodiesel. To decrease the cost of cultivation, a modified Bold's Basal medium was created using low cost chemicals. This treatment was compared to commercial Alga-gro[®] and a water control. *Chlorella*, a fast growing microalgae with high lipid content, was then introduced to all three conditions and cell growth was monitored for 35 days. After harvesting the cells, the non-polar lipids were extracted using a 2:1 chloroform-methanol ratio, which showed yields (18.01%) consistent with previous work. Samples next underwent a transesterification reaction upon which IR spectroscopy was used to detect the presence of fatty acid methyl esters (FAME).

INTRODUCTION

Petroleum resources are finite; it is only a matter of time before these dwindling supplies disappear. In order to minimize our dependence on fossil fuels, the search for alternative sources of fuel has been of critical importance. Three generations of biodiesel have been explored. In the first generation, crops, such as corn and soybeans, were initially used to make ethanol and biodiesel. This strategy, however, is unsustainable due to the high energy and land requirements for harvesting, not to mention the competition with food markets in an age when the United Nations Food and Agriculture Organization (2015) estimates about 795 million people worldwide are undernourished. Aiming to combat some of these issues, second-generation biofuels are produced using organic agricultural waste, including corn husks. Here, high processing costs limit productivity. The third generation, biodiesel production using photosynthetic microalgae, offers a promising solution not only to these fuel limitations, but also to the rising concerns of global warming. While growing, microalgae such as *Chlorella* sequester CO₂ from the at-

mosphere, remove nitrogen and phosphorous from wastewater, and help to reduce our carbon footprint. Microalgae do not compete with the food market and have lower processing costs; however, it is the expense of cultivation and inconsistency of lipid yields that is currently preventing widespread marketability. With our work, we hope to take steps toward minimizing this cost through the creation of our own medium for the cultivation of *Chlorella* and testing the resulting lipid yields, ultimately contributing to a greener, more sustainable future.

METHODS

1) Making modified Bold's Basal medium

The following stock solutions were created by adding the measured-out solute to volumetric flasks and diluting them with distilled water. The EDTA/KOH solution was heated up on a hot plate and stirred with a stir bar in order to dissolve the EDTA. The acidified water that was used to make the FeSO₄•7H₂O solution was created by slowly adding 1 mL of H₂SO₄ to



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| Chemical Compound | Solute to Water Ratio | Mass of Compound |
|---------------------------------------|---|------------------|
| NaNO ₃ | 2.5/100 mL H ₂ O | 2.5066g |
| MgSO ₄ ·7H ₂ O | 0.5 g/400 mL H ₂ O | .5061g |
| K ₂ HPO ₄ | 1g/100 mL H ₂ O | 1.0238g |
| KH ₂ PO ₄ | 1.5/100 mL H ₂ O | 1.5339g |
| CaCl ₂ | .25g/100 mL H ₂ O | .2581g |
| NaCl | .25g/100mL H ₂ O | .25130g |
| EDTA | 50g EDTA and 31g KOH/1 L H ₂ O | 50.0650g |
| KOH | | 31.0339g |
| FeSO ₄ ·7 H ₂ O | .498g/100mL acidified H ₂ O | .4990g |

Figure 1. Chemical compounds and ratios used to create Bold's Basal medium.

999 mL of distilled water. All of the solutions were made in advance and stored in poly bottles.

The Bold's Basal medium was created by adding 1 mL of the NaNO₃ solution, 10 mL of the MgSO₄·7H₂O solution, 10 mL of the K₂HPO₄ solution, 10 mL of the KH₂PO₄ solution, 10 mL of the CaCl₂ solution, 10 mL of the NaCl solution, and 1 mL of the EDTA/KOH solution to a 2.0 L Erlenmeyer flask filled with 936 mL of distilled water. The acidic FeSO₄·7H₂O solution was slowly added and the entire solution was mixed for several minutes with a stir bar.

A titration was set up in order to neutralize the medium. 31.0406g of KOH were added to 1 L of distilled water and used as the titrant. A Vernier and a pH probe were used to measure the pH of the medium. The KOH solution was added dropwise until the pH was around 7.

2) Autoclaving and establishing a culture



Figure 2. Populations of growing *Chlorella*.

250 mL of distilled water, Alga-gro©, and the Bold's Basal medium were autoclaved for 20 minutes each. The solutions were kept covered and allowed to cool.

The *Chlorella* was purchased from Carolina Biological Supply Company and stored in the fridge until use. The *Chlorella* was added by carefully removing some of the autoclaved medium with a sterilized pipette and adding it to the algae cultures. The *Chlorella* was then removed from the proteose agar with the pipette and transferred to the medium.

3) Monitoring the growth

In order to measure the growth, ~0.5 mL of medium was removed from the flasks with an autoclaved pipette. The culture was observed using a hemocytometer. The average number of cells per square mm was measured and then used to calculate the cell concentration. The cell count was measured over a period of 35 days.

4) Harvesting

The *Chlorella* was allowed to settle to the bottom and the top layer of medium was removed. The remaining medium and algae, now highly concentrated, was placed in centrifuge tubes and weighed out so the mass of each tube evenly matched another tube. The tubes of *Chlorella* were centrifuged at 2000 rpm for 10 minutes until a pellet at the bottom formed. The excess medium was removed and the pellets of algae were allowed to dry in the sun.

5) Lipid extraction

After the *Chlorella* cells were harvested and dried, the non-polar lipids were extracted from the microalgae using a method previously tested on dried *Chlorella* samples. In this process, organic solvents break open cell membranes to expose the desired lipids and sepa-



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rate out other cellular structures. Because the algae samples were hardened to the bottom of the test tubes, 3 mL of chloroform and 1.5 mL of methanol were carefully measured and added to each centrifuge tube to establish the desired 2:1 chloroform-methanol ratio. These tubes were then vigorously shaken for 10–15 minutes. Another 1 mL of methanol was added to lower the specific gravity before the tubes were centrifuged at 3000 rpm for 30 minutes. The supernatant was poured into a separatory funnel, the pellet consisting of unwanted cellular components discarded, and 2 mL of chloroform added to reestablish the 2:1 chloroform-methanol ratio. Additionally, a 0.73% sodium chloride (NaCl) was added to the separatory funnel to induce clearer layer separation between the lower non-polar lipid-chloroform layer and upper water-methanol layer. The bottom layer was then drained into a preweighed round bottom flask and rotary evaporated in a 50°C water bath for 1.5 hours. The round bottom flask was again weighed and a small sample was used for IR analysis.

6) Transesterification

Following lipid extraction, a transesterification reaction was conducted to convert the triglycerides into fatty acid methyl esters (FAME), otherwise known as biodiesel. Our setup consisted of a water bath, thermometer, and reflux condenser. A ratio of 12 mL of methanol and 3% HCl to 100 mg of harvested lipids was added to the round bottom flask and the transesterification reaction left to carry out at 65°C for 6 hours.

RESULTS

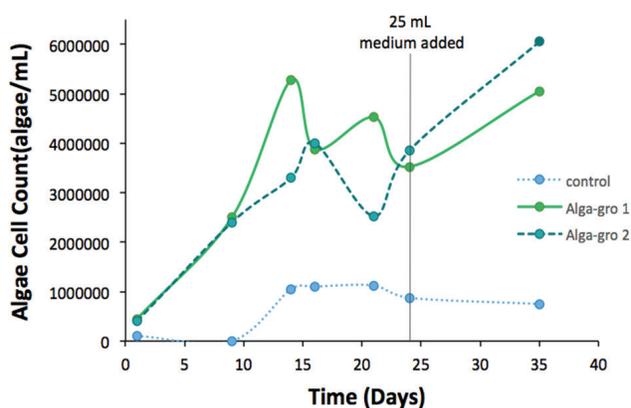


Figure 3. Growth pattern of *Chlorella* in Alga-gro© over a ~35 day period. Increasing growth for the first 13–15 days, then leveling off until the addition of 25 mL medium.

DISCUSSION AND CONCLUSION

The cell growth of *Chlorella* in three different medias was closely monitored for 35 days using a hemocytometer. The cell count was then utilized to calculate the average cell concentration. Graphs of cell concentration vs time were plotted in order to compare and visualize the varying growth rates. Figure 3 shows that the *Chlorella* samples in Alga-gro© began immediate growth once added to the medium and continued growing until around day 13–15. Between day 15–24, the algae reached a stagnant period in which their growth plateaued due to decreasing availability of nutrients in the medium. The fluctuations in these values are likely due to the error associated with averaging small sample sizes when using the hemocytometer. After the addition of 25 mL of medium, cell growth again increased, further indicating that the growth was dependent on the availability of nutrients and followed the expected trends observed in algae cultivation. Compared to samples in Alga-gro©, the *Chlorella* in modified Bold's Basal medium showed little growth initially (Figure 4). The cell count remained constant until approximately day 17 when an additional 25 mL of medium was added. As seen in the other sample, after this addition, growth increased rapidly. Despite its slower start, the *Chlorella* in this experimental medium successfully reached the same concentration as those in Alga-gro©. Therefore, it was determined that the modified Bold's Basal medium was effective. In order to increase efficiency, adjustments to future procedures and nutrient concentrations will be taken to stimulate growth through more frequent addition of medium.

After centrifuging the algae in a 2:1 chloroform to methanol ratio, the lipids and the chloroform were subsequently separated from the methanol using a separatory funnel extraction. The excess chloroform was evaporated off and then the mass of the lipids were measured to calculate the percent yield. In the Alga-gro© sample, the volume decreased almost immediately with vigorous bubbling upon rotary evaporation, leading to low lipid yields. However, the chloroform evaporated off slowly in the samples grown in the modified Bold's Basal medium, and an 18.01% lipid yield was calculated. This value falls within the expected 14–22% range for *Chlorella* (Milano et al., 2016).

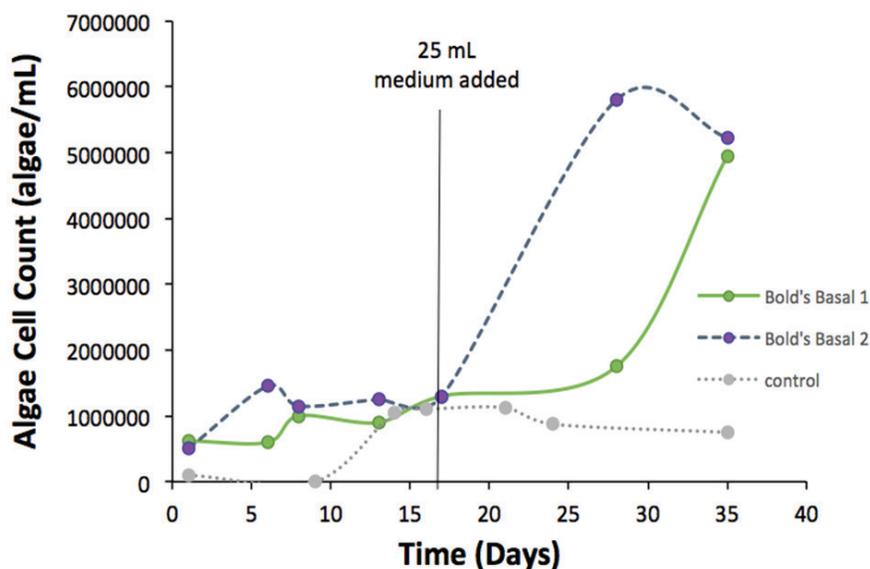


Figure 4. Growth pattern of *Chlorella* in Bold's Basal medium for 35 days. Algae had little growth within the first 17 days but grew rapidly after 25 mL medium were added.

The lipids underwent a transesterification process to convert the triglycerides to methyl esters. In Figure 5, the product from the transesterification is displayed with the major peaks represented by the C=O stretch at 1716 cm^{-1} and several peaks from various C-H stretches around 3000 cm^{-1} . Compared to previous values, the C=O was more similar to the stretching frequency of the triglyceride than the methyl ester. This indicates that the transesterification reaction likely did not run to completion and consisted of some triglycerides. One complication that could have led to an incomplete reaction was the imprecise temperature measurement. Due to the narrow condenser, only the temperature of the water bath could be taken, not the temperature of the solution itself. In the future, the temperature of the reaction rather than the water bath will be measured to eliminate this source of error. Another possible explanation of this difference in frequencies could be that biodiesel was produced and the R groups of the fatty

acid methyl esters were α,β -unsaturated, shifting the carbonyl peak into the $1715\text{--}1730\text{ cm}^{-1}$ range. However, more analysis is needed to confirm this premise.

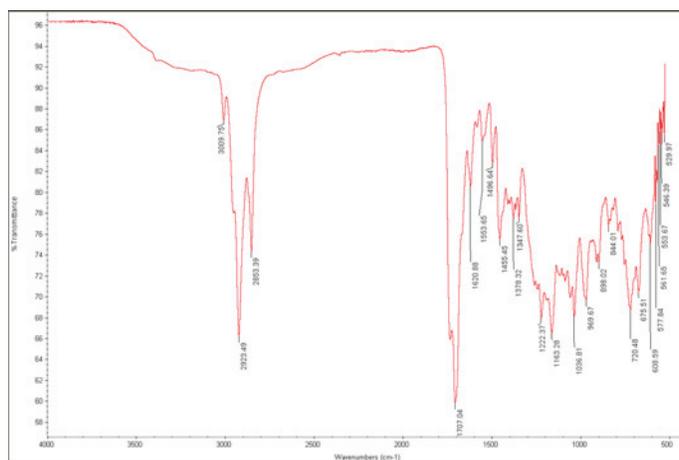


Figure 5. IR spectroscopy of lipids previously extracted from dried *Chlorella* samples; carbonyl peak 1707 cm^{-1} .

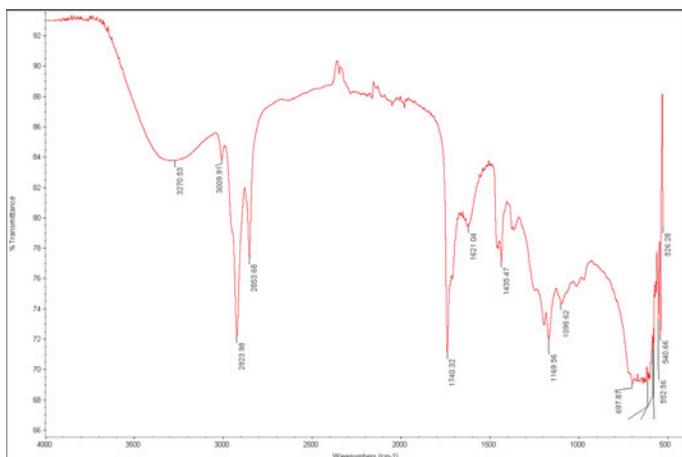


Figure 6. IR spectroscopy of previous transesterification product from dried carbonyl peak *Chlorella*; carbonyl peak 1740 cm^{-1} .

Overall, expanding upon previous studies with dried samples, we were able to successfully grow *Chlorella* not only in an Alga-gro® medium that cost \$21.50 a quart, but also in a modified Bold's Basal medium at \$0.10 a liter. Lipids were successfully extracted with expected yields and procedures to create biodiesel performed.

FUTURE DIRECTIONS

We plan to increase the scale of our project by moving the growing process into a greenhouse in the SUNY Geneseo E-Garden. Another goal is to cultivate different algae strains that would maximize the lipid yields as well as cultivate higher algae concentrations. In order to make counting cells more efficient, we will utilize ImageJ so that the count will be computerized and more accurate. In terms of processing the algae and converting the lipids into biodiesel, we plan on altering the transesterification reaction conditions to ensure that biodiesel is formed. To verify biodiesel production, we will utilize ^1H NMR, ^{13}C NMR, and possibly gas chromatography as supplements to the IR spectroscopy, further verifying the identity of the fatty acid methyl esters and specific side chains. Once the current transesterification process has been solidified, we will use another procedure that is *in situ*.

ACKNOWLEDGEMENTS

We would like to thank Dr. Barnabas Gikonyo for his advisement, the Office of Sponsored Research for their financial support, and the SUNY Geneseo

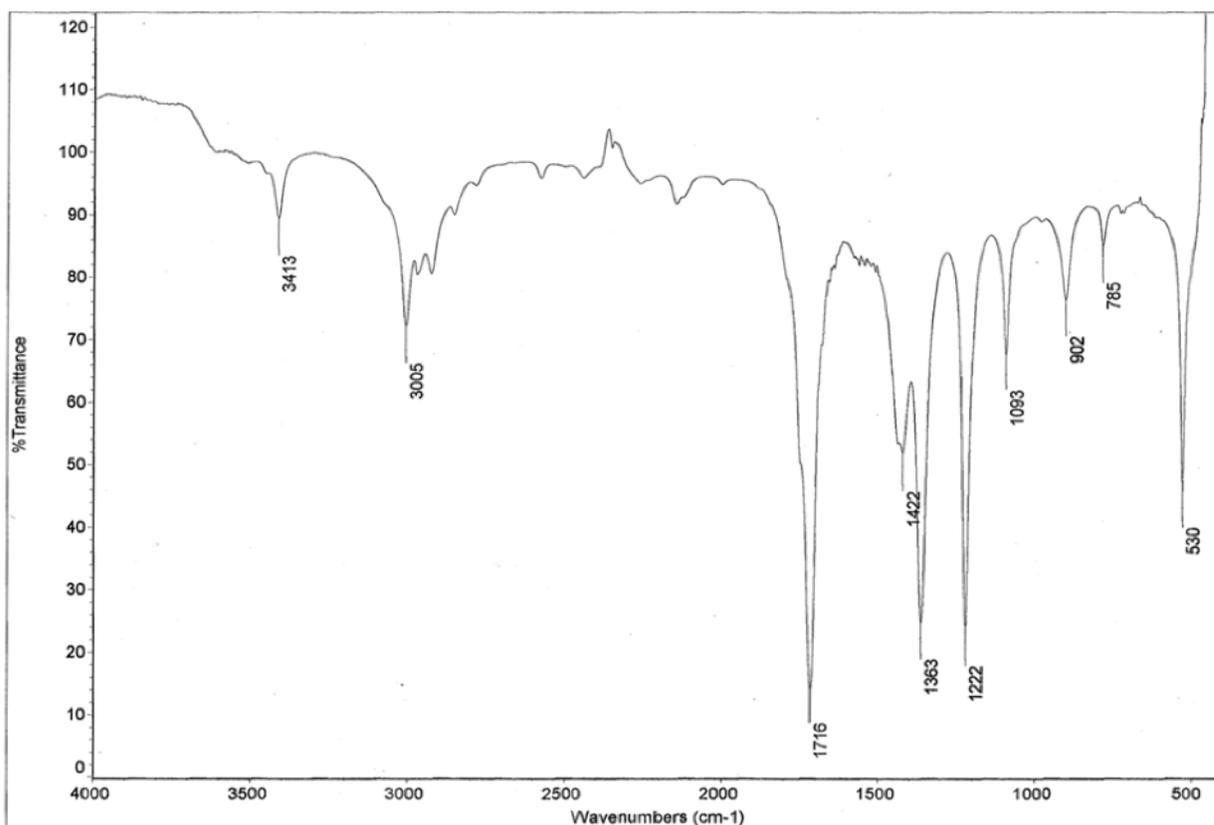


Figure 7. Infrared spectroscopy of transesterification product from extracted *Chlorella* lipids grown in the experimental Bold's Basal medium.



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Chemistry Department for their logistical and material support.

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An Interview with Sydney Klein

Hometown:

Rochester, NY

Major:

Psychology, Dance minor

What have you been up to since graduating from Geneseo?

I graduate in the spring of 2019, and after that I plan on attending grad school to get a PhD in social psychology.

Why do you feel that GREAT Day is important?

GREAT Day is important because it allows students to share their work with the school, as well as help to develop skills for future presentations of research or papers. It allows students to become better speakers in their specific major, which will advance their skill set.

What was your experience presenting your work at GREAT Day?

Presenting at GREAT Day was not only an excellent practice for presentations, it was also a fun way to talk about dance and the history of it. Isadora Duncan and Loie Fuller both are huge inspirations for my own dancing and motivation, so it was a great experience to be able to share their history and contributions.

The Modern Contributions of Loie Fuller and Isadora Duncan

Sydney Klein

Sponsored by Jonette Lancos

ABSTRACT

In this scholarly paper, I will discuss two American modern dancers and feminist pioneers, Loie Fuller and Isadora Duncan. I wrote about the people, places, and things that inspired their movement styles as well as their own contributions and what resulted from them. All of relate to a current choreographic piece for Geneseo Dance Ensemble, created by Professor Deb French, which includes many themes shared by Fuller and Duncan.

Modern dance is an accumulation of many artists' ideas that reject the rigid and strict rules ballet has (Kraus, Hilsendager, & Gottschild, 1991, p. 112). Two pioneers of modern dance who formed the early contributions and elements were Loie Fuller and Isadora Duncan. Both of these influential dancers used the concepts produced by Francois Delsarte, in which he depicted the three zones of the body and the three major types of movement (Shawn, 1976). Taking from Delsarte and others, including Bernarr Macfadden, Fuller and Duncan were able to start and define a not only feminist movement, but a modern dance movement as well (personal communication, spring 2017). Both Fuller's and Duncan's styles emphasized

self-expression and mobilization of emotions and natural-esque contemporary ideals that ballet and other forms lacked (Kraus et al., 1991, p. 112). As technology was developing in America, Fuller used it to her full advantage, which in turn inspired Duncan (Chitwood, 2009). American modern dance began its long journey with Fuller and Duncan, and their influences are clearly seen in many works throughout modern dance's path.

Francois Delsarte, a teacher of music in France, rejected his previous teachers' legacies and strived to create his own formulation of gestures. In the Science of Applied Aesthetics, Delsarte described his three zones of the body and three movement styles, all of which ultimately shaped Fuller's and Duncan's contributions (Brown, 1998, p. 3). The three zones of the body are the head and neck, torso and arms, and the lower half and legs (Shawn, 1976). Each of these zones represented a different human expression: The head and neck were associated with the mental and intellectual aspects of expression, torso and arms were emotional and spiritual, and the physical expression was represented by the lower trunk and legs (Kraus et al., 1991, p. 112). The movement categories were oppositions, parallelisms, and successions. Each category of movement can be clearly seen in modern dance, especially Duncan's work. Delsarte was able to categorize a structured system of gestures that was originally intended for musicians, but carried its in-



Figure 1. Loie Fuller in *La Danse Blanche* (Taber Prang Art Co., 1898).



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fluence and power into modern dance (Kraus et al., 1991, p. 112).

Many dancers believe Duncan was the first to clear the path for modern dance; however, it was Fuller who originally inspired her (Kraus et al., 1991, p. 112). Loie Fuller was born outside of Chicago and grew up traveling the country in a musical theatre troupe (Chitwood, 2009). She was uninspired by ballet's rigid system and joined the "skirt dance" trend, but made it her own (Chitwood, 2009). Fuller enlarged a costume of a traditional dancer and used wood panels to manipulate it through the air, which is where her nickname of the "butterfly" originated (personal communication, spring 2017). Fuller also incorporated the use of technicolor lights and mirrors to reflect them and enhance the spectacle of her dancing (Chitwood, 2009). Fuller is considered to be the face of Art Nouveau, reflected in her fantastical use of shapes and drapery of her costume (class notes?). America was not as willing as Europe to accept this new form of dance, which led Fuller to pursue a career in Berlin and then in Paris (Chitwood, 2009). Fuller continued her American-inspired dance style in Europe where she met and collaborated with Duncan.

One of the most influential artists of modern dance, Isadora Duncan, was born in California, near the sea. Much of her work was inspired by the waves, the rhythm of the ocean, and the natural human expressions that followed (Kraus et al., 1991, p. 112). Similarly to Delsarte and Fuller, Duncan strayed away from strict rules for dance and viewed her body as

a translator for emotions and internal spirit (Kraus et al., 1991, p. 112). Duncan and Fuller studied the structures and the art of Europe and incorporated it into their work. Duncan had a heavy influence from Greek culture, from the drapes she wore to the statue-like poses assimilated into her work. Bernarr Macfadden started a physical movement with the Greek ideal "sound mind in a sound body," which kick-started Duncan's feminist and modern action (personal communication, spring 2017). Duncan's movement style consisted of fluidity and grace, all while capturing picture-worthy moments and snippets throughout the pieces. In Brahms Waltzes, choreographed by Sir Frederick Ashton of the Royal Ballet of England and performed by Lynn Seymour, a viewer is able to clearly see the Greek influences. The dance was a depiction of Duncan's style as well as a piece devoted to admiring her contributions-considering she refused to be videotaped (personal communication, spring 2017). The performance displayed Duncan's use of music visualization and gave the audience an image of what the music might look like (personal communication, spring 2017). Duncan's ideals allowed the European and American communities to gain support for the new and incoming American modern dance technique (Kraus et al., 1991, p. 112). Many other artists continued the emphasis on self-expression and rejection of rules and strict guidelines that Delsarte, Fuller, and Duncan first introduced. Modern works in the 21st century incorporate the freeing and spiritual movements used during Duncan's time, and the ideas are instilled in many dancers today.



Figure 2. Isadora Duncan (prancing left to right, holding salmon color cloth, wearing dark pink tunic) (Walkowitz, 1906-1965b)



Figure 3. Isadora Duncan (enface, one arm across herself, one knee slightly bent, white tunic) (Walkowitz, 1906-1965a).



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Through empirical study, I was able to encounter a type of modern dance similar to Duncan's naturalistic style. I was cast in a Geneseo Dance Ensemble piece entitled "Aqueous," crafted by Professor French for the spring semester of 2017. I noticed many similarities between "Aqueous" and the video of Brahms Waltzes. The movement we do in "Aqueous" is driven by the rhythm of the ocean as we dance to the sound of waves in the first section. This also relates to Duncan's seaside influence. The movements presented in Brahms Waltzes reflected the natural experiences one might have along the ocean, and the dancers in "Aqueous" aim to do so as well. In the second section of "Aqueous," we used fabric to also represent the pouring and draping of water. Fuller and Duncan were known for the use of fabric to extend their own body and create illusions of intricate shapes and manipulations. The fabric we use acts as the crashing of the waves as well as the flow of bodies of water, which once again, can relate to Duncan's original influence of the ocean. Lastly, the final section of "Aqueous" uses hard, pose like movements to capture the essence of the synchronized beat and rhythm of the ocean. Duncan included pauses that emphasized unique gestures that used specific formations of the hands, arms and torso, which can be seen throughout "Aqueous." When first rehearsing "Aqueous," I was moved by the powerful inspiration that Professor French has explained to us, however, I had not known previously of Duncan's modern dance style. After researching and listening to the lecture in class, I was able to connect the two. The performance of "Aqueous" will enlighten myself as well as other dancers and the audience of the ocean-like qualities of Duncan's modern dance contributions.

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Geneseo's Diversity Efforts and Its Missing Link

Stella Oduro

Sponsored by Melanie Medeiros

ABSTRACT

As a result of segregated school environments, largely due to differences in socioeconomics, college may be the first place where some students learn to work with people from different races and ethnicities (Park, 2014). Interracial friendships not only help to develop the racial climate of a campus, but also help students develop positive learning, increase critical thinking, and enhance college experiences (Tanaka, 2003). Students do not benefit if homophily forms; homophily is the “tendency of like to attract like” (McPherson et al., 2001; Park, 2014). Homophily can occur if students lack precollege experience of interacting with students of other ethnicities and races or if the college’s racial climate does not encourage students to interact with others from different racial groups. In this presentation, I will present data on whether homogeneity on the Geneseo campus is influenced by racial climate and/or homophily in students’ precollege experiences.

INTRODUCTION

In this paper, I will argue that Geneseo’s location and lack of representation forces students, especially minorities, into same-race homophily groups, regardless of their pre-college experiences and geographic location. Homophily is defined as the love of the same or the tendency to associate and bond with similar others. The purpose of this paper is to (1) explore how pre-college experiences and geographic locations impact a student’s ability to form interracial friendships, (2) to understand if a student’s pre-college experiences and geographic locations have increased or decreased their racial sensitivity, and whether Geneseo’s campus encourages voluntary segregation among students, and lastly, (3) to suggest ways in which Geneseo can shape its programs, policies, and environment that would encourage an open dialogue about race, ethnicity, and diversity.

At an early age, children are taught to be colorblind. The inability to see disparities caused by the social construction of race causes consequences many are unaware of. Wingfield (2015) found that colorblindness benefits White people, allowing them to live in a society where “Whiteness is normalized.” Minorities,

however, become aware that people will often judge them “as members of their group” (Wingfield, 2015, p. 5), treating them with the stereotypes commonly attached to their group. This means that unless White people are exposed to racial issues, many children and adults alike will go on through life without seeing or experiencing “racial stratifications in schools, neighborhoods, health care and other social institutions” (Wingfield, 2015, p. 6). Colorblindness is so prevalent it can also be seen on college campuses. Racism influences the ways in which students are treated on campus as well as how minorities interact with both their fellow classmates and professors. The Black Lives Matters movement, which emerged after the unjust and untimely deaths of Michael Brown and other minorities, ultimately encouraged students to question the racial climate of their colleges. These protests raise questions about the colleges’ ability to protect minorities, as well as educate community members about the importance of not being colorblind. Students across the United States often protest the systematic oppression minority students endure all too often in higher education. Some students protest these oppressions on their own campuses, while others stand in solidarity to address both the systematic oppression and microaggressions experienced on



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campuses. These acts promote awareness of the racial issues at hand and advocate for social change on college campuses by administrators. This systematic discrimination makes it essential that we teach our community members and students alike that just because there is an absence of outwardly racist findings, it does not mean that racial discrimination is not still at large.

Color consciousness would not only draw attention to the systematic oppressions that minorities face every day, but it would also increase racial understanding within our society. Additionally, it would encourage us, as a society, to work toward change for everyone. If we are not consciously aware of the limitations minority groups face, we cannot resolve them. *The New York Times* OP-ED columnist David Brooks (2016) reported that “a free society requires individuals who are capable of handling that freedom — people who can be counted on to play their social roles as caring parents, responsible workers and dependable neighbors.” Brooks’ words echo the Black Lives Matter movements’ cries that society cannot erase violence against minorities without seeing the problems that minorities encounter in their everyday lives. This means professors need to be learning how to facilitate conversations about racial conflicts, while schools work to create a safe space for minority students to share their experiences.

The SUNY Geneseo Campus, just like other campuses, has been experiencing protests urging administration to address the microaggressions minorities face. By opening a dialogue in regards to race and the microaggressions Geneseo minorities face on campus, President Battles has created initiatives like the Commission on Diversity & Community to both address and find solutions to students’ problems. It is impossible to find solutions without considering students’ pre-college exposure to this sort of dialogue, especially with apps such as Yik Yak that aid students in making ignorant posts and voicing their dissatisfaction anonymously.

The election of Donald Trump and his current administration has encouraged students who dislike the continuous protests of the Black Lives Matter movement on campus to not only graffiti a KKK sign on our beloved Gazebo but to also vandalize dormitories with hateful signs. It is imperative that the Commis-

sion on Diversity & Community works toward understanding how students’ geographic locations and pre-college experiences influence their racial perceptions.

FIELD SITE

The Village of Geneseo is composed of 8,158 people, while the State University of New York at Geneseo alone has about 5,521 attendees. Geneseo is a predominately White campus with 75% of the student population identifying as Caucasian, 3% African American, 7.5% Latino, 7.6% Asian, 2.8% Multi-racial and 0.1% Native Americans. Using the Geneseo campus as my field site, I researched to find if Geneseo’s racial disproportion makes it susceptible to homophily.

RESEARCH PARTICIPANTS AND METHODOLOGY

In order to understand how the Geneseo campus and community influences interracial friendship and homophily among students, I interviewed 14 Geneseo students from different graduating classes. This was a random sample as I emailed the different graduating classes from freshmen to current seniors seeking willing participants. With the political turmoil of the United States, many students responded to this research despite contributors not receiving any sort of payment for their participation. To protect the identities of my participants, I will only use their first names in this paper. I interviewed two freshmen, Samantha and Amy; seven sophomores, Michelle, William, Lauren, Linsey, Ciara, Richard, and Nina; one junior, Linda; and four seniors, Tobey, Anne, M, and Michael. The interviews were conducted in person and at the end we had a focus group to discuss strategies to use in working toward improving Geneseo’s racial climate. Each individual interview was pleasant and conversational and lasted anywhere from 36 to 60 minutes. The questions were designed to see whether each interviewee’s pre-college experiences and geographic locations influenced the type of friendships they made in Geneseo. The questions also examined how Geneseo’s location influences their decision to either interact and befriend only people in the same racial group or different racial groups on campus. The answers to these questions



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allowed me to see how different geographic locations and pre-college experiences influence the way Geneseo students choose their friend groups. One challenge that I faced while conducting this research was finding a key informant, such as an administrative worker or faculty member, to offer additional context to the paper.

LITERATURE REVIEW

Pre-College Experience

College students' pre-college experiences with interracial friendships plays a significant role in how they make friends during college. Saenz (2010) found that "Students' pre-college racial environment and experience indeed have notable perpetuation effects in college diversity outcomes, such as cross-racial interactions and students' attitudes about racial discrimination" (p. 30). Many researchers support Saenz's statement by citing that because of segregated schools and environments, students of racial and ethnic backgrounds differing from the majority group have a harder time interacting with one another (Bowman & Stewart, 2014). By citing that segregated environments and schools influence student interaction, Bowman and Stewart (2014) emphasize the importance of spatial proximity and how diversity within students' community is important to the formations of interracial relationships (Mouw & Entisle, 2006). Because college students carry their precollege interactions with them into their first year of college, it is imperative that colleges find a way to help students expand upon their experiences without imposing or impeding on their beliefs and rights (Saenz, Ngai, & Hurtado, 2007, Whitt et al., 2001). In addition, Bowman and Stewart (2014) assert that pre-college experiences, such as "living in a racially diverse neighborhood, attending racially diverse schools, and having interracial friendship networks, may have a greater impact on the racial attitude of White students than on the attitude of student of color at college matriculation" (p. 116). Bowman and Stewart's assertions stem from the fact that Asians and Hispanics/Latinos are more likely to have friends from other races and ethnicities when compared to White and Black students in their first year of college due to their pre-college experiences (Park, 2014, p. 655).

HOMOPHILY AND PROPINQUITY

Segregated neighborhoods and schools foster and enhance homophily, which is the tendency of "likes attract likes" (Park, 2014, p. 655). Homophily allows students to interact "with others who are like [themselves]" (McPherson et al., 2001, p. 415), which later becomes an exclusive membership for the people in the group excluding dissimilar characteristics. Although homophily can be built upon status, homophily can also have a values basis, as "similarity is based on informal, formal, or ascribed status," it can be a combination of both status homophily and value homophily (McPherson et al., 2001, p. 419). Thus, a decrease in racial homophily depends upon students' interactions, availability of different racial groups within their own community, and spatial proximity with their peers (Bowman & Stewart, 2014, p. 116). Only a decrease in homophily will illustrate Allport's (1954) contact hypothesis, which states that prejudice is lessened and decreases when people with equal opportunities interact with diverse groups and effectively learn from each other. Therefore, a more open dialogue will be established between individuals of different races and ethnicities with a positive and progressive attitude. With the concept that college students' tendency to become friends and associate with people of their own race and culture, Buchmann et al. (2009) insinuates that college students might be driven toward their friends because of shared social situation, which is called propinquity. In addition, Buchmann et al. (2009) found that propensity combined with homophily increases racial homogeneity on college campus.

RACIAL CLIMATE

With homophily derived from pre-college experiences, it is imperative that the racial climate on campus be adjusted in order to help students interact more with both faculty and other students. While college campuses give the majority group the opportunity to interact with minorities, all reviewed literature states that students of color, such as Asians and Hispanics/Latinos, are neutral in the interracial friendships from their pre-college racial environment, while Black students decrease the formation of their interracial friendships during college.



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Hence, colleges need to implement programs aiding the school's commitment to creating a diverse community (Whitt et al., 2001). Implementing programs like this should provide college administrators with alternative lenses in which they can understand "how same-race friendships persist due to how majors are filled that resists simply targeting the concentration of students of color in certain academic programs as the 'problem' to be solved" (Bowman & Stewart, 2014, p. 116). College racial climates should be inclusive, while providing students the same opportunity to learn effectively about other cultures without administrators simply targeting different races and ethnicities to fulfill their diversity quota. It is the duty of the college to help entering students without any prior interracial friendship experience not only question their pre-college experiences, but expand and improve upon their understanding of these kinds of relationships.

RESULTS

Geneseo's Location

Geneseo prides itself on its inclusion and diversity initiatives. Each and every semester, Geneseo finds ways to make diversity a priority; however, as I found out through this interview, students are unfamiliar with Geneseo's definition of diversity. All of the interviewees, when asked to define Geneseo's diversity, failed to articulate a definition of what it means to be a diverse campus. While Geneseo's definition of diversity is holistic and composed of all of the different categories, such as race, ethnicity, national origin, gender, etc., and reflected in interviewees' own definitions of diversity, with the exception of Michael and Richard, most of the interviewees did not see the diversity Geneseo claims to be promoting.

According to Ciara, "diversity needs to be seen." Regardless of how Geneseo defines diversity, all of the interviewees agreed that Geneseo does have a holistic definition, but it is not fully manifested in the campus population.

Linda, a biracial student and Buffalo native, stated that while she knew diversity was a Geneseo core value, she said it is "passive" rather than active, referring to the lack of racial diversity within both the student body and faculty. Anne, a Black Geneseo graduate

student, argued that "Geneseo has a large LGBTQ+ community and that plays a lot into its diversity, I get that, when it comes to sexuality, you have a diverse campus, but a majority of those people are White... When it comes to race, you still have 95% of the population as White, and that's not diverse." She continued to say that she does not see the college "upholding the pillar of diversity."

Lauren, a Guyanese and Portuguese student from Queens, New York, wanted to know how Geneseo defines diversity because she was "told that it was fairly diverse" and when she came to orientation "they said it is 76% Caucasian people" and [to her] that doesn't sound very diverse. M, an Asian student who identifies as Chinese, believes that Geneseo defines diversity "based on an equal ratio of students from different geographic areas. There is a decent number of international students but also Geneseo mostly attracts students from Europe. [It's] still Eurocentric not a lot of diversity."

Combined with its location, some interviewees found Geneseo, as a whole, to be very limiting. Geneseo's small population forces people to "interact through cliques, groups of people, and organizations." Tobey, a White student, from Middleburgh, New York, stated that "small town, [students] never get to meet people in town before meeting people on campus." Amy, a Hispanic student from the Bronx, believed that Geneseo's location makes it difficult to make friends on campus because campus is "extremely big. So normally for you to make friends and for you to get to know them by going an event, you can't really do that here because there is only one bus that takes you to Walmart and back." Michael, a Pakistani student from Albany, New York, and Linsey, a White student from Buffalo, further reinforced all the interviewees' points by stating that Geneseo's location puts students in a bubble: "You are either in a group or you are not in a group. Once you have like a set groups, you stay there and you don't really like mix." Essentially, the context of Geneseo's propinquity, or spatial proximity, makes it easy for homophily to form among students. As Michelle, a White student, put it, Geneseo's location forces students to go with people who look like them. However, to some interviewees, Geneseo's spatial proximity means "more people are ignorant about things such as race and diversity." According to M, this ignorance stems "out



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of lack of knowledge and experience.” This lack of exposure to different races and diversity can increase hypersensitivity towards different racial groups.

PRE-COLLEGE EXPOSURE

Interviewees’ Awareness of Racial Identities

Bowman and Stewart (2014) make the argument that students do not come to college with a clean slate; rather they come already “filled with experiences, beliefs, and interpretation of social dynamics on both macro and micro levels.” Because of this, they assert that students’ pre-college exposure to diversity shapes their racial attitudes. Before the analysis, it is important to state that all interviewees understood and were aware of race starting at a very early age. While the method by which each became aware of different racial groups and their own race was different, they knew it existed. Anne reinforced this: “I always knew. It was there but I did not understand until I came to college. In the city, it was there but it was not defined.” M, who was adopted, said that by the time she was in kindergarten, she understood that there was something different about her because her friends would ask her, “Why don’t you look like your mom?” Linsey said she “remembers going through all of the pictures and seeing that I am the only White person in the picture.” For Michael, who felt similarly, it was being raised in a predominantly White neighborhood that made him aware of his own racial identity. He reaffirmed this when he said, “I have always known that they are White and I am not.” Despite knowing about race, as both Anne and William, a Hispanic student, expressed, “It was not necessarily an understanding of race, but we knew that certain people were different.”

As previously stated, students’ propinquity, which “describes the proximity between people,” influences “the likelihood of their forming a relationship” (Park, 2014, p. 643). Aspects of propinquity include perceived similarity and homophily, which is often tied to racial demography. When asked to describe their friend group before college, the interviewees’ responses reflected that of the neighborhood in which they grew up. In doing so, each interview reinforced that propinquity does play a significant role in friend-

ships formed before college. Lauren reaffirmed Parks’ theory in saying, “It is not the best neighborhood, so my parents don’t like me making friends there but I love the people there. Because we all grew up in the same neighborhood and face the same thing growing up.” Despite her Queens village neighborhood being “ghetto,” she “vibes together [with her Guyanese friends] because [they] know the struggle.” The individuals Lauren interacted with shaped her pre-college experience, because she lived in a community of mostly minorities, and mainly intermingled with Guyanese people because of the spatial proximity and racial makeup of her community.

Just like Lauren, Amy went to a predominately minority school in a predominately minority community, the Bronx. According to Saenz (2010), both Latinos and Black students are more likely to attend mostly minority-attended schools (p. 5). He further asserts that these schools, unlike predominately White schools, are the “most under resourced, most understaffed, most poverty-stricken, and most neglected schools in the country” (Saenz, 2010, p. 4). They attend these schools as a “coping strategy to account for perceived hostile or unwelcoming environment” (Saenz, 2010, p. 28).

MEDIA AND ITS EFFECTS ON WHITE RACIAL IDENTITY

These differences are often reinforced by the media, and depending on the neighborhood they grew up in, each of the interviewees understood the different stigmas and privileges that are associated with their race. When asked to state some of the privileges associated with each of their race, White students interviewed were more likely to state positive privileges than their counterparts. Samantha, a White student from Long Island, stated that “having money and a say in a lot of things” mattered. Linsey reaffirmed this when she said, “There is a stigma about being a White person. Like you don’t hear about White stereotypes. I am better off than most people because of my race.” Nina, a White Jewish student from New York, further explained that her Whiteness not being considered a race in itself is a privilege because “no one [is] tiptoeing around microaggressions and in a sense, makes life easier.” Both Tobey and Michelle stated being White gives them freedom of movement



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in which they can walk around “police officers and guys leave you alone.”

MEDIA AND ITS EFFECTS ON MINORITY RACIAL IDENTITY

Unlike their White counterparts, students of color had a harder time thinking of something positive to say about their race. When asked to describe some privileges associated with her race, Anne took a moment and asked “Like what? I don’t know,” claiming “that’s not a question [she] can answer.” M also illustrated the same thought when she said, “I don’t consider my race to have any privileges. I don’t think there are things Asians have that other race don’t have.” Linda took the conversation further to illustrate the colorism that comes with having certain features. Linda states that she has the “privilege in the realm of race because [she is] lighter and [has] other features.” She continues by stating that “being proud to be Black and other things that Black people do is much more tolerable when you are light skin, the closer you are to Whiteness.” Even if they are able to describe the types of privilege associated with their race, it is something tangible to their ethnic group such as speaking “two languages” and having the ability to “travel outside of the United States” as Amy stated. These students did not come to Geneseo without knowing about different racial groups or their own privileges, if they believe they have any (Bowman & Stewart, 2014, p. 10). They have their own shared experiences which shape and define how they interact with both the people on campus and within the community.

MICROAGGRESSIONS AND ITS REINFORCEMENT OF SOCIAL DOMINANCE

During the interview, I asked students if they have ever lost something or felt mistreated because of their race. Anne responded with a story about a time she and her friends went to a Rite Aid store in New York City. She stated:

We went around into Rite Aid to look around and look at stuff and one of the associates kept following us around the

store. It got so uncomfortable to the point that we had to leave. I felt like we had to buy stuff to prove that we weren’t stealing. It changed how I go to the store. When I go to the store, I would stay outside if I am not buying anything while my friends go inside. When I go to a store, it means I need something because I won’t go to the store to look, it does not feel right.

During the conversation, Anne further stated that she does the same thing here in Geneseo out of the fear of encountering the same issue. Despite her decision to restrict herself from going into stores unless she needs something, the issue of being viewed or stereotyped as someone who would steal still prevailed.

Ciara, a Hispanic student from the Bronx, also shared Anne’s sentiment when she stated that her interaction with the community has been less than positive. She too shared an anecdote of going to the Geneseo Walmart. She stated, “There have been multiple times where we went to Walmart and we were in the self-checkout aisle and the workers would literally come and stand in front us.” She later observed that as soon as they paid for their materials, the workers would leave. To Ciara, “stereotypes of people of color stealing things” play a role in the Walmart workers standing in front of her when she paid for her mattress pad. These shared experiences are not something that Geneseo has to consider when dealing with students of different racial groups. In fact, when asked if they were mistreated because of their race, with the exceptions of Michelle, William, and Richard, all of the interviewees can recall a time they were mistreated or lost something because of their race.

When minorities attend predominantly White colleges like that of Geneseo, students’ microaggressions reduce their sense of belonging and hinder their participation in campus life activities (Yosso et. al., 2001). Amy shared, “People get upset at the stupidest things and take it out on the wrong people and it is the last thing I want to happen. I honestly do not mind walking around here with people ignoring that I exist, or I don’t mind as long as when they *do* find that I exist, they don’t hate me for something I did not do.” Amy’s decision to remain invisible on campus despite being a freshman illustrates Yosso et. al’s



(2001) theory that racial microaggressions can negatively impact college racial climate.

Amy's remark came shortly after she said she heard "one girl saying 'Oh how am I supposed to feel comfortable with White cops walking around saying they are going to protect us?'" While the students, whom Amy describes as White, may have the intention of making a joke, Amy did not find it particularly funny. In fact, Amy stated that this "kind of bothered [her]," because the student could not put herself in the shoes of minorities being mistreated by cops. She stated that the student "was being insensitive to people who were experiencing the situation." Amy described another incident that occurred in her dormitory where a friend of a suitemate calls her the "brown one," rather than her name, simply because she is the supposedly darkest one in her suite.

These microaggressions influence not only minority participation on campus but also their academics.

Last year, the BSU staged a protest in solidarity with the students of Missouri and people on Yik Yak were so hateful. They were basically saying that 'we don't need to protect racism on campus' but the way they said it proved the opposite. It was very terrifying because I honestly think every White person has some form of hidden racism inside of them. I don't go to White people saying let me be your friend, I don't do that. No one is correcting anybody because they are either too afraid or they don't know any better, I just sit there hearing the ignorance of the people. If I was not the only Black person in class, I would have said something but because I am, I just sit there and let them talk.

Ciara describes how some students' reactions to the solidarity protest caused her to stop participating in class, especially if she was the only Black student in the classroom.

Anne agreed with Ciara by asserting that "on this campus, most of the classes you take, there will be only one or two Black people in the class." The fact that she is the only Black person in the class forces her to "put on [a] persona of a tough person going to

classes like 'I don't care.'" She explained that she always felt unwelcome in all-White groups. She felt like her perception of White students changed in that she is less likely to befriend White students because they are unfriendly toward her race or seem unwilling to get to know her. The lack of diversity and the inability of many White students to understand how the different forms of microaggressions toward students of color makes it difficult for them to share their experiences and knowledge. Linda also reinforced both Anne and Ciara's points that without the presence of another minority in their class other than themselves, they are less likely to voice their opinions. Despite being considered most prepared to engage diversity, Amy, Lauren, Anne, and Ciara's decision not to voice their opinions and dissatisfaction with the treatment of minorities can prevent cultural engagement on the Geneseo campus. It also proves Solórzano et. al's (2000) finding that racial microaggression does not only occur inside classrooms but also outside of them.

Similarly, Milem and Umbach (2003) found that the students least likely to be prepared to participate in diversity in college are White students. Their assertion stems from White students coming from almost all-White neighborhoods. With the exception of Linsey and Nina, a large number of the White students interviewed came from mostly White neighborhoods. In fact, Richard, who comes from a town an hour away from Geneseo, sees Geneseo as a diverse place in comparison to his hometown. Similarly to Richard, Tobey comes from a predominantly White neighborhood and knew mostly White people before coming to Geneseo. Tobey's exposure to different groups of people, specifically Black people, came through media. Tobey affirmed this when he said he "really had no exposure until I was ten. [I knew] there were people who are different and that they were bad." For him and his family, the lack of interaction with other racial groups made college the first place he was fully exposed to different groups and cultures. In college, he was "surprised by the diversity" but even then, he maintained that Geneseo is "still pretty White." Tobey's exposure to diversity also means exposure for his family. Tobey, who began dating a Black girl here in Geneseo, explained the awkward way his grandparents would show their affection toward his girlfriend. When asked to explain whether he has stereotyped someone, Tobey said



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“telling my grandma what to buy for [my girlfriend] to eat. It’s so bad, every time, my grandma buys tons of bananas, and I am like ‘Grandma, [she] eats different things beside bananas.’” He attributes this awkward affection to lack of exposure to Black people as well as people of other racial groups and the media’s reinforcement of stereotypes.

Stearns et. al (2009) argues that because of different pre-college experiences, “college may provide the first opportunity for many young adults to interact closely in academic, residential, or social settings with members of different racial and ethnic groups” (p. 173). Michelle, who went to a school that was 95% White with a handful of Hispanic and Black students, grew up in an all-White neighborhood and stated that she was oblivious to racial struggles. She was never aware of race until 7th or 8th grade when her friends were “complaining of how they were represented. It was something that was brought to my attention by a minority.” Initially Michelle saw Geneseo as a more diverse community than the one she grew up in. Similarly to Tobey, as she began to explore more on campus, she began to realize “we are [not] as diverse as other schools.” Nevertheless, Michelle expressed her discomfort when speaking about racial issues. She stated she becomes “really conscious and think about what [she is] going to say” because race is a sensitive topic. Despite most of their friends being White, Tobey’s, Michelle’s, and Richard’s exposure to different racial groups has helped expand their knowledge about racial disparities.

These students’ experiences here in Geneseo allow them to seek comfort within their own racial group. Minorities who come here with diverse views are often deterred by the environment in the classroom and community. While all of these interviewees had a diverse group of friends, they also had certain biases toward their own group. M affirmed this when she said that she was much more willing to trust a Chinese person for the first time than someone of another race. Even students who came from diverse schools often have homogenous friend groups. Samantha came from a diverse school and had a varied group of friends back home, but in Geneseo, all of her friends are White. Linda and William, who continuously maintained their interracial friendships, are exceptions to this. Rather than only focusing on academics, Geneseo administrators should find ways

to make Geneseo a student center where dialogues about social issues are encouraged. While each interviewee had different characteristics they look for in friendships, it is important that Geneseo understands that all of these students come from different walks of life. Because all students on this campus come from extremely different lifestyles, there needs to be more ways to promote diversity within the Geneseo community.

DISCUSSION

Despite stating broad characteristics that students seek in friendships, which can be found among people from different racial groups, these interviewees found that their close friends are from the same racial group as them. While social students do come to Geneseo with their own knowledge and understanding of race and privilege, these ideas are normalized by both the media and environment. Precollege experiences influence students’ initial friendship formation; however, the overall college experience has a much greater impact on how students choose their friends. The interviewees acknowledge that Geneseo’s location places them into cliques and makes it difficult to either escape or add to their group of friends. Nevertheless, the idea that Geneseo’s lack of diversity forces students into a bubble depends on the type of environment the students are coming from. Students who live in diverse and highly populated areas, such as New York City, found Geneseo to be limiting and not very diverse, while students from upstate and towns smaller than Geneseo found Geneseo to be more diverse. I did find that students from minority backgrounds tended to make friends with minorities from other cultural backgrounds because of their shared experiences, geographic locations prior to Geneseo, and microaggressions they have encountered. Microaggressions not only hinder minority students from voicing their opinion in classroom, but also make their race and cultural difference in this homogeneous campus more visible. With few exceptions, White students interviewed said they tend to have friends from the same racial group, but whether their decision is influenced by their pre-college experience is not certain. While I did learn that students’ decisions to form these kinds of friendships are influenced by their college experiences and Geneseo’s location, the extent to which



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Geneseo's location influences students' behavior and decision is still unclear.

Regardless of race and class year, a majority of the interviewees believed that racial and social issues should be taught in class or be incorporated further into professors' lesson plans. As one interviewee stated, "race, gender, and sexuality affect students and how they are treated during their time at school and later in the workforce." In fact, these things also influence how they interact with other people, especially those who want to work in fields that require them to work with individuals coming from different backgrounds.

CONCLUSION

In order to fully implement rules and goals about diversity and inclusion, racial and ethnic differences have to be talked about. A person's race should be one of the few things that administrators consider when making a decision how to make Geneseo more inclusive. Out of the 14 students interviewed, only two students did not mention ethnicity, race, or skin color in their definition. Bowman and Stewart (2014) argues that propinquity might contribute to White students interacting with fewer racial friends and reinforce racial homophily. However, in Geneseo's case, it seems as though propinquity might contribute to minority students interacting with less White students. If this occurs, Geneseo loses its opportunity to educate and teach students to be equipped with the skills and motivation to create a diverse society (Stearns et. al, 2009). According to Milem and Umbach (2003), exposure to diverse peers can disrupt the cycle of endurance of segregation in our society.

Consider Linsey's experience in Geneseo so far: Linsey, a White female, knew from an early age that she was White and from the minority group at her Buffalo school. Nevertheless, Linsey considered that it was a "pretty cool thing to have many different types of people around [her]." Her story is striking because she went from being friends with a diverse group of people in her hometown to not wanting to attend multicultural organizations in Geneseo because she "believes it's not her place." If the goal of this campus is to create holistic students who understand and appreciate cultural differences, then Geneseo needs to find better ways of encouraging students to speak about social issues. As depicted by interviewees in

various responses, requiring a mandatory course on race, gender, and sexuality might not work because, as one of the interviewee said, "a class like this might ignite hatred towards minorities and would become another general education requirement where students just take the class to fulfill their requirement, not to learn." On the other hand, M optimistically stated that a class like this would make multiculturalism more than a hobby. Michael also suggested that Geneseo should create a mandatory pass or fail seminar each semester for students in different majors to attend. However, this class should be taught by a professor who is racially and culturally aware, as well as able to generate conversation through storytelling. Just like Anne, Linsey, who is from the city, knew that race existed, but it never let it define her, until she came to Geneseo.

Most of the interviewees also found that most professors are ill-equipped or uncomfortable with leading a conversation on diversity, race, and different forms of microaggressions. Anne recalled one of her last classes before graduating where the professor talked about race and religion, but never about race relations. She claimed that her professors felt uncomfortable and never once went into Islam and the Black community. She also mentioned that sometimes it depended on the audience of the class. For example, with a mostly White audience, the professor might not feel obligated to explain racial issues. Nina also reiterated Anne's point when she said that, "Oftentimes if someone brings up [a topic that professors never heard before] they don't know how to approach it." Approaching different curricula through a Eurocentric view does not provide students with the holistic view necessary for change to occur.

Finally, it is important to mention the limitations of this research. First, the interviews were a random sample; therefore, it was not race- or gender-based. They were selected because they wanted to share their experiences.

We also have to encourage our professors to acknowledge their own biases, fears, and anxieties when talking about race and diversity (Sue et. al, 2009, p. 183). An option to better professors is to offer training in this area. Geneseo can have a mock teaching session, where a professor approaches the different facets of race and microaggressions. After this, students can



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offer the professor some constructive criticism. Maybe professors should find ways to incorporate Critical Race Theory, not only to improve race and diversity conversations, but also to encourage students of color to speak more in class. If Geneseo is going to claim diversity as a part of its core tenets, we must equip professors with the training and skills needed to ensure effective and productive conversation.

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