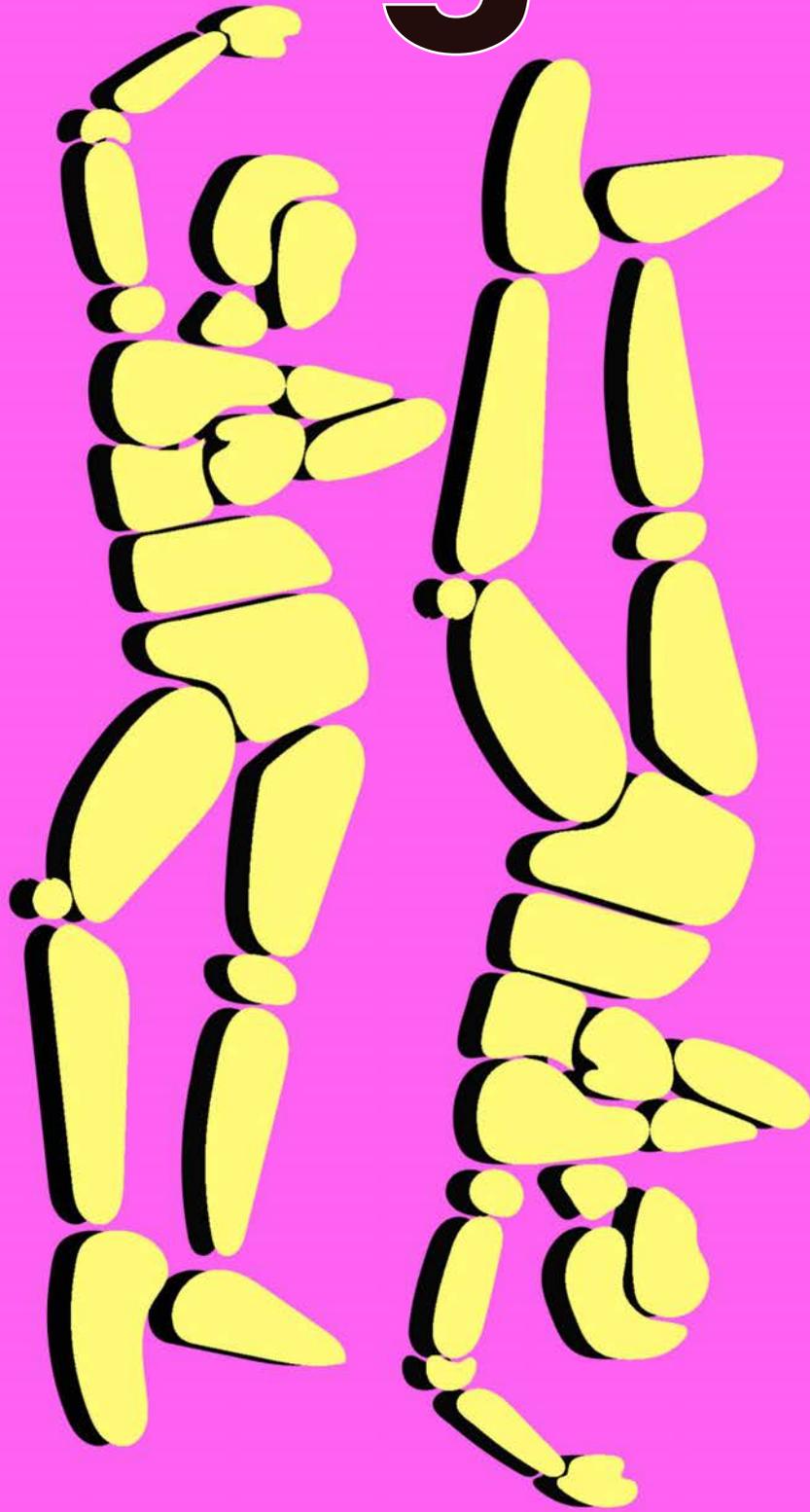


insights



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Let's Give Bugs A Chance!

Mia Slater

[First Place]

Bugs are often associated with words like “disgusting” and “parasitic,” so it is not surprising that the concept of entomophagy, otherwise known as insect-eating, is disturbing to some (okay...most) of the people in North America and Europe. It reminds me a lot of when I snubbed my nose up at different vegetables as a kid. My parents often told me, “What if it’s the best thing in the world? You’ll never know unless you try!” which was a good point, and I’ve been a tryer of things ever since. In fact, just recently at the Orange County fair this year, I saw “PEANUT BUTTER AND JELLY BACON DOG!” in large letters on a food cart. Of course, I had to try it. I heard a couple behind me say, “Peanut butter and jelly bacon dog? Who the hell would eat that?” I do not blame them; it is weird. But, to answer their question...me, I would eat that. It actually tasted good. When I grabbed a napkin to wipe the peanut butter off my face, I noticed some ants marching across the table beside me. And I stopped to wonder, “Could we put that on a hot dog, too?” This led me down an interesting path. As it turns out, insect-eating has been around for a long time, and it is not uncommon today, either. In fact, we’re the weird ones for not participating. It is estimated that over 80% of people on the planet eat bugs! (Roberts 8). This fact amazed me, and led me to many other questions: why do we not eat insects here? Are they healthy? More importantly, are they yummy? And if they are, how can we convince others to try them? Where can I try them? These questions may appear trivial to some, in fact the whole concept may seem like a joke. But rest assured, entomophagy is no joke, and I can prove it.

Throughout my research, I’ve discovered bug eating is an important matter worthy of discussion. One of the more obvious reasons being the nutritional aspect within them, each bug carrying a different nutritional label; for instance, omega-3s are found in mealworms, iron and calcium are within termites, and varying quantities of zinc are present in nearly all insects (Gordon 15). But inarguably, protein has garnered the most attention, and rightfully so. Patrick Huyghe, an editor and freelance science writer, states how “[Insects are] high in protein: the protein content of a dried insect can be as high as 75% of its weight: dried ground beef, on the other hand, is only 43% protein” (9). And just to reiterate, George Gordon, author of *The Eat-a-Bug Cookbook*, expressed something similar: “Pound for pound, dried grasshoppers have almost the same amount of protein as lean ground beef. And you’re not getting the fat that you would by eating a hamburger” (15). That’s another reason protein is often mentioned when arguing for insects as a legitimate food source: the fat content. It is packed full of protein, but with such a low fat content, worries about cholesterol are nonexistent. And when considering the unwavering obesity epidemic, that is an insanely powerful argument to be made. Insects can rival meat, and according to the project coordinator of the Toronto Food Policy Council, Wayne Roberts, “bugs and caterpillars generally contain as much protein as beef, pork or chicken, and have more iron, zinc, niacin, thiamine and riboflavin” (9). Judging by the amount of research done on the nutritional content of insects, It is doubtful that this is something widely debated among the bug eat-

ing community. But despite all that, we still do not have packaged insects in grocery stores or in restaurants. This knowledge is readily available, so why isn't America and Europe on board yet? Well, the answer is painfully obvious.

The ick-factor may be the largest barrier between bugs ever being widely consumed by Westerners. It is easy to underestimate psychology, but when we're brought up to crush bugs beneath our feet, how can we expect garnishing them on fancy plates to be easy? Perhaps that's a key to opening minds – exposure. In 2018, a study was conducted at the University of Parma, in Italy, involving a dessert made with crickets. The purpose of the experiment was to uncover which demographics were more likely to eat insects, it was a fairly small study, and though the numbers alone do not necessarily provide insight into the psychology of bug-eating– it proves that convincing those unfamiliar with eating bugs to give it a chance is possible. Some participants may have been overwhelmed with disgust and fear, but even if they could not get the dessert anywhere near their lips, simply considering it for a moment is a big step. In “The Infested Mind: Why Humans Fear, Loathe, And Love Insects,” a book which explores the psychology behind the fear of insects, it states how “many psychologists maintain that exposure to the feared stimulus itself is necessary, and often sufficient, to treat phobic individuals.” (Lockwood 115)

If entomophagy-advocates truly want people in the Western world to eat insects, we need to spread the word, educate others, and perhaps most importantly: provide samples. It sounds obvious, but we need to convince people not just that it's healthy, but also that it's tasty. And what better way to spread the word than to make them want to come back for more? If we do not prove that bugs can be delicious, it will always be considered a weird niche in Western society. While we provide samples, we can also inform others, and maybe even bring some of the hypocrisy towards in-

sects to light. A strong way to convince others is through making comparisons. For example, “With a closer look at the foods most Americans eat, the general repugnance toward insects becomes not only puzzling but senseless. Other kinds of invertebrate make regular fare– clams, mussels, oysters, snails, squids and in particular crabs, shrimp, and lobsters, which are closely related to insects” (Huyghe 10). This begs the question, where is this imaginary line we've drawn for what is and is not gross? Perhaps that sentiment could tie it all together. Of course, there will always be people too squeamish to give bugs a chance, and that is okay. The point is not to force it on people, but to get the people who may be on the fence about it to become advocates in order for bug eating to become accepted in Western society and grow.

It is easy to deduce what entomophagy needs to go further is some serious advocacy. Eventually, if it becomes normalized, we can give the act of eating insects a new name. When asked if he thought entomophagy would catch on, George Gordon said he didn't like that term, expressing how “it's a scientific term, that sets it apart from other foods.” And when asked by the interviewer what he would call it, he simply stated “Oh, ‘bug eating,’ I think. I'd love for someone to come out with a really gourmet term for it. You know, if you go out for a steak you don't say, ‘I'm going to engage in carnivory.’ You say you're ‘going to eat a steak’” (15). Which makes perfect sense: it is food, there's no need to use that terminology. Using more familiar vocabulary could also help people accept it more. On the opposite side, according to Alan Yen, an entomologist and invertebrate ecologist, “Encouraging the direct use of insects as food in Westernized societies should not be the major objective at this stage. Changing attitudes to eating insects is paramount to success; the main challenge is to change Westerners to eating insects” (295). I firmly agree with that statement; it is a challenge, however, when Yen goes on to say how we should

start with insects as “food supplements,” and as part of “livestock food” to implement them into western culture, I strongly disagree. Yen’s analysis fails to acknowledge that if we establish a precedent as insects being for livestock, or something that is to be hidden inside a capsule, then nobody will take it seriously as actual human food. We didn’t start eating cows by putting beef in little pills. So I think a method similar to that of ripping off a band-aid would be much more effective. Exposure is the way to go, and the gradual method Yen is advocating for will not change minds. Especially when you consider the widely available public knowledge of the FDA. Many Americans actually already know they are eating insects to some degree. For chocolate, the limit is 60 or more insect fragments per 100 grams. That means if there’s 59 insect fragments, it is good to go (“Food Defect Levels”). Not everybody, but a lot of people are aware of that, and yet those same people would most likely not consume insects. That’s why hiding it would probably never work.

What if it doesn’t have to do with the ick factor, or the psychology behind it at all? What if bugs simply do not taste good enough? But no, that can’t be. When asked what scorpions taste like, Gordon stated “They taste sort of like soft-shell crab. They have long white meat in their claws; like a little lobster, basically” (14). Admittedly, not all bugs are created equal. Gordon states how South Eastern Asian centipedes do not “have much culinary value,” as they have “a chemical taste to them,” Which begs the question, just how much do bugs differ in flavor? That’s a discovery we could uncover for ourselves, if bug eating became more accepted and widely available in the Western world.

And as it grows as a food source, it will become more suitable for the American/European palate, just as every food has. Once again, we are the strange ones for not participating, “Anthropologists have documented 2,086 species of insects that are consumed by 3,071 ethnic groups in 113 countries on every inhabited continent.” (Lockwood 147) We could join the countries that embrace bugs as food, there is so much to learn from them, “the Bushment and Hottentots relish ants, the Pedi of South Africa and Shona of Rhodesia are locust lovers, the Pange of Cameroon eat twenty-one kinds of caterpillars, the Thai savor water bugs, the Japanese consume rice hoppers cooked in soy sauce and sugar...” the list goes on, and on, and on.

Entomophagy is a nutritious and exciting world of culinary experience yet to be utilized by Westerners. Through marketing, the environmental benefits, the natural human desire to experience new things, and the endless varieties of recipes to try and create...entomophagy has an overwhelming amount of potential. I started with one question, and that was: “why not?” And, yet, for all that’s written about it, for all that I have written– that single question remains. Here in North America, and in Europe, our dishes remain insect-free. I used to think we have everything here, but I was wrong. And I will not stop advocating for bug eating until I can order a fried tarantula at a drive-through. There are so many possibilities, and despite never having tried any fancy insect dishes, I am confident bugs are just as delicious as any other food. I remain hopeful for the future of bug eating, and I hope that one day we’ll be able to order it off a menu, right here in the USA. Let’s give bugs a chance!

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Underrepresentation of Women in Science, Technology, Engineering, and Mathematics Professions

Evelyn Fischer

[Second Place]

Historically women have been pushed to pursue careers that are deemed more nurturing, delicate, and feminine such as nurses, teachers, and housekeepers. The patriarchal stereotypes that women are the weaker sex and are not knowledgeable in science-orientated careers may explain the gender gap of males and females in science, technology, engineering, and mathematics (STEM) professions. In the late 20th and early 21st centuries, there has been an effort to encourage women from an early age to engage with STEM courses in order to decrease the underrepresentation of women in STEM. However, from the early stages of adolescent development through the stages of university and professional careers, there remains a gender and wage gap between men and women who pursue STEM related occupations. The obstacles women face when pursuing these professions contribute to why women are a minority in the STEM field. As early as elementary school, women are under the preconceived notion that their male counterparts outperform them in science and mathematics leading to gender and wage inequality within STEM professions.

A study conducted by Wieselmann, Roehrig, and Kim, used Social Cognitive Career Theory to examine the correlation between self-efficacy and the preliminary career choice between elementary school girls and boys. Wieselmann et al. sought to provide evidence to determine if a female student's self-efficacy was driven by influence from male peers depend-

ing on the type of learning environment. In a previous study that the authors cite "over 6,000 students showed that girls' STEM career interests declined throughout high school while boys' interests remained more constant; by the end of high school, only 12.7% of girls indicated an interest in pursuing STEM-related careers, compared to 39.7% of boys" (Wieselmann et al). According to the authors, there is a strong correlation between how females have been socialized to not "jeopardize their identities as good students" (Wieselmann et al. 234) and the style of learning that they are subject to. The current curriculum supports the practice of standardized tests in a classroom setting, the instructor will prepare the students for the standardized tests instead of providing an environment where teamwork and communication are prioritized. Wieselmann et al. hypothesized that if education systems wanted to continue to encourage female's interest in STEM, unique out-of-school learning experiences might help. Until this study was conducted, there was very little research on how out-of-school STEM experiences impact students with all varying degrees of interest in STEM, especially female students (Wieselmann et al. 236). Therefore, the authors designed their study to include female students with varying degrees of interest in STEM.

Participants in the study were female students aged 10-11, and "each participant was visiting Designs in STEM with her classroom teacher and grade-level peers, including both

boys and girls” (Wieselmann et al. 236). Designs in STEM is a nonprofit program that designs STEM-orientated activities for youth.

The study used interviews as the primary source of data along with observations noted by researchers of interactions between students during their time at Designs in STEM. When conducting preliminary interviews with female students aged 10-11 who were asked about their feelings on mathematics and sciences, there was a large negative position taken by the students. When asked about science alone, there was more of a positive reaction. Post-interviews were conducted after the students’ time at Designs at STEM and the female students “went on to explain that the actual mathematics content and skills...were similar at school and Designs in STEM, but the contextualized nature of completing the calculations at Designs in STEM made it more fun and useful” (Wieselmann et al. 238). The researchers discovered that the female students who did not show interest in STEM before, positively responded when discussing future STEM careers. The nature of the program Designs in STEM focused on having students engage in activities that used science and mathematics in a real-world context thus allowing female students to stray from their usual learning environment. When the female students were asked to describe their male peer’s behavior, there was an agreement that their male peers seemed distracted and chatty. As researchers discovered, the female students equated intelligence synonymously with speed and tracking. Their male peers were able to complete mathematical problems quicker than the female students and thus excelled in more advanced and gifted classes (Wieselmann et al. 239). There seemed to be a negative impact on female students’ self-efficacy when observing their male peers who were deemed as distractible still gain achievements in science and mathematics. Therefore, driving female students away from STEM subjects because of the socialization that female students receive,

that they must be good students. Cited in the article by Wieselmann et al. previous research demonstrated that “girls often display prosocial academic behaviors to demonstrate their responsibility, but these behaviors are not necessarily linked to deeper cognitive engagement with content” (239). According to the authors, these behaviors exhibited by female students are caused by the design of the classroom environment where being fast at mathematics means success in STEM. The design of the classroom may push female students away from STEM at an early age. The authors note that there are implications to the study where educators must consider mathematics as the gateway to other STEM courses. The authors agree that there must be thought into how mathematics is taught in school systems to invoke persistence in female students through engaging activities.

Research conducted by Wieselmann et al. focused on the early stages of adolescence and the stereotypes that already exist around STEM subjects along with its impact on female students. Other researchers have conducted studies on how those stereotypes can contribute to poor academic performance in later academic years. In the article, *Stereotype Threat Impairs Ability Building: Effects on Test Preparation Among Women in Science and Technology*, the authors Appel, Kronberger, and Aronson define the stereotype threat as “a state of psychological discomfort that, if sufficiently acute, can impair performance” (904). Appel et al. give an example of stereotype threat that “may occur when a woman who is aware that women are considered inferior to men at math is confronted with a mathematics test” (Appel et al. 904). The authors examine how this stereotype threat can lead to poor test preparation which include note taking capabilities, retention of information within the notes and the memorization of information after. The authors conducted four different studies that built off one another.

In the first study, the authors investigated whether there was general knowledge about

the stereotypes about men and women within STEM related subjects. The participants within the study were men and women aged 16 to 75 who answered a series of questions through an online questionnaire pertaining to the beliefs of men and women in STEM. It was hypothesized that “our female participants believe that others view women as less able than men to learn in STEM domains” (Appel et al. 905). The study revealed that participants agreed that “although women are expected to be good learners in general, they are expected to be less proficient than men in learning the traditionally male fields of the natural sciences and engineering” (Appel et al. 906).

Having confirmed the hypothesis and confirmed that both sexes were aware of stereotype threats, the authors designed the second study to determine whether this stereotype threat resulted in inadequate note taking. It was hypothesized that “students under stereotype threat take lower-quality notes” (Appel et al. 906). Forty females, ages 19 to 43, were randomly assigned one of two readings. One reading “highlighted gender differences; however, it did not explicitly mention achievement-related characteristics” (Appel et al. 906). The second stated that there were no differences in STEM abilities between genders. Participants then took notes on computers within a computer lab, about the readings that were then examined by two instructional psychologists, who rated the quality. The data demonstrated that indeed, those who read the first reading took lesser quality notes than those who read the second (Appel et al. 907).

The third study was designed similarly to the second, except the participants received readings specifically about the stereotype threat within the STEM field. It was hypothesized that under the stereotype threat, participants would take lesser quality notes. The participants were randomly assigned either the stereotype threat reading or the control reading and “were asked to take notes that would be most helpful for

themselves as well as for fellow students when preparing for an exam” (Appel et al. 908). Results indicated that the author’s hypothesis was correct; subjects that read about stereotype threats took poor notes.

The fourth study investigated the ability of participants to choose relevant, high-quality notes under stereotype threats. Participants were females aged 18 to 33 and were randomly assigned to three different readings. The first reading implemented the stereotype threat, the second remained the control, and the third “emphasized that, although men outnumber women in most STEM study programs, standardized tests indicate that men have worse learning abilities in math and science” (Appel et al. 909). Participants had to sift through notes and encyclopedia articles about each respective reading, except some of the articles contained wrong information, and some of the notes had been altered. The results indicated that “when the negative group stereotype was activated, women failed to distinguish between low-quality and high-quality information” (Appel et al. 910).

With these four studies, the authors provide more than enough evidence that the stereotype threat exists and impacts test preparedness. In a cited study by Appel et al. it was discovered that when under the stereotype threat, women would choose simple tasks over complex ones. Appel et al. cites “when girls had the choice between an easier, an appropriate, or challenging task, girls who thought the tasks prompted mathematical abilities more often chose the easier problems to solve than did girls in the control group” (911). When the stereotype threat is present that males perform better than females in STEM fields, in order to avoid failure or mistakes, females will avoid STEM domains. There are consequences with stereotype threats among women within the school who want to progress within the STEM fields.

With the research into the existence of stereotype threats, it provides insight on chal-

lenges women may face as they advance in their STEM careers. Progressing through university can be difficult due to discrimination women face in STEM paths, but those who graduate university may not only face just discrimination. An article published in the *Australian Journal of Labour Economics*, written by Dockery and Sherry, discusses how after graduating with STEM qualifications, women are subjected to limited wages, salary advances, promotions and job opportunities. Dockery and Sherry cite a report by the Office of the Chief Scientist in Australia in 2016, that 2.3 million people received a Bachelor's degree or higher in STEM qualifications that include "fields of Natural and Physical Sciences (NPS), Information Technology (IT) or Engineering and Related Technologies (ERT)" (127). Out of those 2.3 million people with STEM qualifications, 84% were male (Dockery and Sherry, 127). This indicates a significant gender gap within the STEM labor market, but the authors note that there have been funds granted for the sole purpose of supporting projects and STEM courses for women. Yet the data demonstrate that STEM careers are still mostly occupied by men with little change to positively impact women's careers.

The authors used data gathered from the Australian Bureau of Statistics Census data and the Household, Income, and Labor Dynamics in Australia Survey (HILDA) to conduct their study. The authors hypothesized that using the data from both sources, there would be evidence to support that despite the movement to improve the underrepresentation of women in STEM careers that there is still lower unemployment rates, lower wages, and bias towards women who have families (Dockery and Sherry, 130).

The authors first compare the Australian Bureau of Statistics Census data from 2006 to 2016 in order to recognize trends between women with STEM qualifications, women with non-STEM qualifications, men with STEM

qualifications, and men with non-STEM qualifications within the workforce. Upon examination, the authors concluded that "Women with STEM qualifications had a marginally lower labor force participation rate than other tertiary qualified women in both 2006 and 2016" (Dockery and Sherry, 131). This provides evidence that women with STEM qualifications face a harsher hiring process than women with non-STEM qualifications. When examining the male participation rate, men with STEM qualifications and men with non-STEM qualifications remained consistent until a slight increase for men with STEM qualifications. The authors compared trends and concluded that women with STEM qualifications are the lowest participants within the labor force.

When comparing the unemployment rate from 2006 to 2016 of women and men with STEM qualifications, a gap emerged where women with STEM qualifications had a higher unemployment rate than their male counterparts (Dockery and Sherry, 131). The authors then focused on women and men with STEM qualifications in IT and engineering related fields and found that the female unemployment rate in IT "was 2.3 percentage points above the male rate of 3.9 percent; and for those with qualifications in an engineering and related field, the female unemployment was 2.9 percentage points above the male rate of 3.2 percent" (Dockery and Sherry, 131). The authors stated that from 2006 to 2016, there was a significant gap between the genders.

The authors then examined data from HILDA, which surveys participants over the age of 15, annually. These participants are individuals in selective households and respond to survey questions about their professional history, wealth, family orientation, education and others (Dockery and Sherry, 133). The authors narrowed down the HILDA respondents only to those who attained a Bachelor's degree or higher and examined unemployment, wages, and participation rates in the workforce.

The authors concluded that “Wages of women with STEM qualifications were 79.1 percent of those of their male counterparts, but among those with non-STEM qualifications, women’s hourly wages are 86.3 percent of male wages” (Dockery and Sherry, 136). The author’s research demonstrates that not only do women with STEM qualifications earn less than their male peers but less than women who are in the workforce with non-STEM qualifications.

Participation, unemployment, and the pay gap all contribute to how underrepresented women are in STEM careers after university. Those few women who make it into a STEM profession and display mastery of the subject matter are still struggling to participate in professional settings. During the conferences, the International Congress for Conservation Biology and the European Congress for Conservation Biology, twenty sessions were observed by authors Hinsley, Sutherland and Johnston. Hinsley et al. acknowledge that there are “Gender imbalances” within STEM careers and especially “with women particularly underrepresented at senior levels” (1). The authors attended these conferences to conduct a study about the differences between male and female participation in “speaking up” and asking questions during presentations (Hinsley et al. 2). In 81 previous studies Hinsley et al. cites “gender-based differences in classroom interactions found that boys participated significantly more than girls” (2). The authors confirm that these previous studies’ findings remain true in more recent studies and speculate that they may be linked to declines in female self-esteem.

Within the scientific community, participation, appearance, and status affects individual and community behavior, which can reflect on reputation which “may then lead to invitations such as opportunities to collaborate, give talks, apply for positions etc and so influence the actual contribution made” (Hinsley et al. 3). Hinsley et al. hypothesized “that women are less likely to participate in the question sessions

at a large scientific conference, due to behavioral differences linked to external factors” (Hinsley et al. 3). During the time of the conferences, at four randomly selected intervals, 10 “synchronized parallel sessions” were observed by a team (Hinsley et al. 5). During the sessions, observers made note of gender and age of the audience members and recorded questions asked in either the over 50 years old category or under 50 years old. After data was collected over 31 different seminars, the authors had collected 270 questions 152 of them from men and 118 from women (Hinsley et al. 5). Hinsley et al. reported that “on average there were 0.08 questions asked by each female audience member and 0.14 questions asked by each male audience member” (Hinsley et al. 7). Which translates to men asking 64% of questions, which encompasses all ages. Even when the over 50 and under 50 age groups were separated, the authors found that “young men would ask 66% of the questions asked by younger researchers and that therefore younger male researchers ask 1.8 questions...for every question asked by younger female researchers...” (Hinsley et al. 7).

Hinsley et al. speculate that it might be a possibility that the difference in questions may reflect upon a female scientist’s confidence and “who are likely to have faced academic and professional barriers based on their gender that men have not” (2). Throughout the progression of a female scientist’s career, she has faced stereotype threat, struggled to find employment, and other discrimination which brings down self-esteem leading to less participation within large gatherings.

Throughout females lives, females are under the preconceived notion that their male counterparts outperform them in science and mathematics subjects in school leading to gender and wage inequality within STEM professions. From as early as elementary school, young females are immersed in an educational environment where the curriculum is focused on preparing students for standardized tests in-

stead of building values of communication and teamwork. As researched by Wieselmann et al., creating unique out of school STEM experiences to encourage female participation within STEM subjects, benefits their confidence and provides curiosity to pursue STEM subjects in school. As females progress through their academic careers, they face a stereotype threat that further separates their engagement in STEM subjects within school. Research conducted by Appel et al. reveals evidence that there is a stereotype threat that impacts test preparedness and test performance for females. This stereotype threat results in lower test scores for females on STEM subject tests which results in females avoiding STEM domains. Females who graduate university with STEM degrees also face blockages when finding employment opportunities such as limited wages, salary advances, and promotions, as researched by Dockery and Sherry. Dockery and Sherry provide evidence that females with STEM qualifications face a harsher hiring process opposed

to males with STEM qualifications, males without STEM qualifications, and females without STEM qualifications. This leads to lower employment and underrepresentation of women in STEM careers after university. The few females who make it into a STEM profession and display mastery of their subject matter still face discrimination in professional settings. Research conducted by Hinsley et al. provides evidence that during scientific conferences, females are less likely to ask questions than males due to a lower confidence level. A lower confidence level may be contributed to discrimination females have faced throughout the progression of their career. Females face discrimination from an early age and throughout their education which leads to the underrepresentation of women in STEM fields. Significant change should be enacted on how females are educated throughout their lifetime in order to build confidence and excitement for STEM subjects to create engaging and equal opportunities for females to pursue STEM fields.

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Education: Turning the Tides of Recidivism

Laurel Molloy

[Third Place]

At some point in most people's lives, they must resocialize into a new way of life. Resocialization is when you must learn or relearn the rules and norms of a new part of society. When convicts exit prison after serving their sentence, they must resocialize back into the norms of society. Many factors influence the resocialization of prisoners into society, and one that needs to be examined is education and its impact on recidivism. Recidivism is the custom for criminals to reoffend and continue breaking the law after getting out of jail. It is a very good indicator of how well an individual is resocializing back into society after prison. This essay will assess the influence education has on the resocialization of people after incarceration especially pertaining to recidivism.

Angela Koo talks about the topic of recidivism closely. If a convict keeps breaking the law, they have not resocialized well into society because they are not following the norms and what is expected of people in that society. A different article, by Liz Benecchi, expounded upon the rates of recidivism showing the significance of the issue. Benecchi wrote, "within three years of their release, two out of three former prisoners are rearrested and more than 50% are incarcerated again" (Benecchi). Koo elaborated on this by saying that there are many factors that influence the rates of recidivism such as education, economic status, and the length of sentenced jail time. Koo said education is especially important to research because it can be participated in while in prison. Prisoners can read, learn, and have programs while in jail. She said, "correctional education

can reduce recidivism by giving inmates the basic educational skills and achievements that they lacked upon entry" (Koo, 242). Koo did secondary analysis on several studies including a meta-analysis by the RAND corporation and a study of 3,170 men and women inmates covering three states. All the studies she looked at pointed out that, in the majority, programs and education helped convicts get jobs after getting out of jail and helped them with not getting back in jail again when resocializing into society. She concluded that even getting high school diplomas and GED's helped convicts get jobs. Getting a job is essential because it is a key step in the resocialization process. It is a norm for all adults to work and have jobs so they can support themselves. Even a basic education is important and helps convicts get a job and ease into normal life after prison.

Koo found that educational programs could cut recidivism by almost 30% in some cases (Koo, 243). Programs like that help give convicts more choices and opportunities in society. Koo found that recidivism is a big issue in today's prison systems. It is especially important when convicts have children and families. A different article by Patricia Gonzalez et al. delved into how education helps family ties and recidivism. They also added that education and job specific programs can help benefit prisoners on the path to resocializing correctly into society.

Gonzalez and two other colleagues analyzed the relationship between recidivism and education programs but more specifically they looked at how it affected incarcerated mothers

in their article. They did a meta-analysis on research done by Gorden and Weldon who were both researchers at Marshall University. This analysis found that inmates who did not receive education programs in prison had recidivism rates of 26%. However, recidivism rates were 8.75% for inmates who completed vocational (skills and training to get a job) programs and 6.71% for inmates who did vocational training along with completing General Education Development (GED) programs (Gonzalez et al. 359).

A secondary analysis of a 2002 study conducted by Fabelo was done by Gonzalez and his colleagues. The study followed over 32,000 inmates for a year (Gonzalez et al. 359). It again found that job specific programs and training along with education programs in general help inmates resocialize into society and not fall back on their old ways. They found that inmates who participated in both educational and vocational programs had less recidivism and could transition better into life and get a job.

Gonzalez and her associates also inspected family ties in prison. When a parent is in prison the child can suffer the consequences in school and have trouble. By keeping strong family ties even in prison, it can both benefit the child's grades and mental health but also the parent's recidivism rates. They explained that "not only can educational programs play an important role in improving family relationships it may also subsequently motivate former prisoners to stay out of prison" (Gonzalez et al. 359).

Gonzalez's team looked at how educational and vocational programs helped keep families close and reduce recidivism. When prisoners are educated and taught basic skills on how to get a job and get by in life recidivism reduces. By teaching them how to get jobs and succeed in life outside prison, the cycle of recidivism and bad choices can be broken. In the next article, John Nally and his associates look

at a specific study in Indiana looking deeper into education and recidivism rates.

In an article Nally along with several other authors wrote about a study of a classic experiment on recidivism rates. It was conducted by the Education Division of the Indiana Department of Correction (IDOC). Nally's team wrote that, "the results of this study demonstrate that an offender who has not attended correctional education programs during incarceration is approximately 3.7 times more likely to become a recidivist offender after release" (Nally et al. 69).

The study had a control group and an experimental group both with over one thousand subjects in them. The subjects were convicted criminals in Indiana. The control group, called the "comparison group" by Nally and his colleagues, was randomly selected after meeting a set of requirements. They were not given government funding to have education programs, and so not a single "offender in the comparison group had received the federal funding to attend any correctional education program during incarceration" (Nally et al. 73). While the experimental group, called the "study group," received education while in prison. About 72.7% of the experimental group study participants were of the age twenty to twenty-nine, and 85.5% were male criminals (Nally et al. 74).

This study focused on the direct relationship between having educational programs and the decrease in inmate recidivism. They found that the experimental group had recidivism of 29.7% while the control group had recidivism of 67.8% (Nally et al. 74-75). As stated earlier, prisoners who did not go through education programs in prison were roughly 3.7 times more likely to break the law, break society's norms, and go to jail again (Nally et al. 69). In this experiment the independent variable, the variable that causes the change, was educational programs given to the experimental group. While the dependent variable, the

variable that is impacted and changed, was the recidivism rates of the inmates.

The study Nally and his colleagues looked at found that education helps reduce recidivism without a doubt. The percent difference between the experimental group and the control group was large. Of a little over a thousand inmates for both the experimental and control groups, 410 more people went back to jail from the control group compared to with the experimental group who had educational programs. About 38% more people went back to jail in the control group verses the experimental group.

This shows how education helps recidivism and should be a top priority in helping prisoners. More funding for educational programs could help reduce recidivism rates even more. Brady Duke agrees with these findings and thinks that more should be done to help reduce recidivism. He looks at this and the specific demographics that have more recidivism compared with others to see what groups generally need more help so prisons can know what and whom to focus on.

In his article, Duke did a meta-analysis on five different studies to look at the effect of education and vocational programs on recidivism. He also went further and called for action and reform in the prison systems.

The studies he chose looked at recidivism's correlation to characteristics like race, and education before going to jail. He used an X² goodness of fit test to analyze the data. This test is used to see if chosen data represents the greater sets of data. It sees if the smaller set of data embodies the whole population of people in prison. He also used a two-proportion z-test which is a way of analyzing proportions of data and seeing if they are similar.

Duke said that his findings after the meta-analysis showed that “men have lower educational attainment rates than women prior to incarceration and are more prone to recidivate, [so] correctional education would be most ef-

fective when directed toward men” (Duke, 54). He found that men are 1.2 to 1.5 times more likely to have recidivism than women, and that education really does help with recidivism (Duke, 54). The analysis found that the less educational attainment someone had going into prison the more likely someone was to have problems with recidivism. Educational attainment in this case is the highest grade or degree of education someone received before going to prison. Duke found that black men had some of the lowest educational attainment and so need the most educational programs in prison to make sure they do not have high recidivism.

Duke said, “although many factors contribute to this relapse into criminal behavior, a reform of our prison system is necessary to help combat an inmate's chance of recidivating” (Duke, 45). He calls for more educational programs and more funding to those programs. Through a poll in Indiana prisons Duke found that only 4.7% of prisoners had some sort of college education and that 35.4% of prisoners did not even have education up to normal high school standards (Duke, 46). He wants the prison systems to have more money and access education to help reduce recidivism especially in higher risk demographics like men compared to women and black men compared to white men.

All statistics and articles point to the importance of education to help convicts resocialize into society and stop recidivism. Any time someone goes through significant change and has to adapt and resocialize into a new way of life from what they were used to is a sensitive time. The more inmates learn about the world outside of prison and gain the tools they will need to get a job in society through education the better. The Bureau of Justice wrote that in state prisons usually nine out of ten have some kind of education program (Harlow, 4). That number seems high but if education could help recidivism would it not be better if all prisons had an education program. A lot of factors con-

tribute to running prisons and changing them but moving forward education needs to be a high priority in prison systems.

After spending a long time in prison resocializing into society is a tender time. People can either learn and follow the rules of society or they can go back to their old ways of breaking the More norms (laws). Many inmates in prison have little to no education and tend to be from low-income situations. Having minimal education can make it hard for people to resocialize and integrate into society. The link between education and recidivism is because education makes it easier to get well-paying

jobs and fit into society. People with high economic hardship tend to have less education because they must be working for every penny not learning in a classroom. Because of this link between recidivism, education, and income a survey of low-income families and the education system should be done to see if it is helping them enough. Steps and studies need to be taken to examine why and how to reduce the number of people going to prison in the first place. There are many steps to take but it is also clear how vital education is to getting inmates to resocialize into society and stop the high rates of recidivism.

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Complete Silence

Iris Davis

In *The Shahnameh*, Abolqasem Ferdowsi portrays a female character feminist critical analysis. The female character can be found in the beginning of the story, and she could easily be overlooked due to her submissive and passive demeanor. Ferdowsi reveals in Princess Nahid's character the customs of conformity in relation to women in *The Shahnameh*. The book of kings reveals the power differences between men and women, specifically King Derab and Princess Nahid, in a society where women did not have a voice to make decisions, but they were expected to submit and obey the men who reigned in authority over them.

One way Ferdowsi demonstrates voiceless women in a society dominated by men is revealed in Princess Nahid merely being an object to King Derab: "One night this lovely moon, arrayed in jewels and scents, lay sleeping beside the king. Suddenly she sighed deeply, and the king turned his head away, offended by the smell of her breath. This bad odor sickened him, and he frowned, wondering what could be done about it" (963). The text describes a beautiful woman lying next to King Derab. Her beauty is significant in this feminist analysis because it is easily overlooked in place of her role as a woman. She has no voice. The text does not say Nahid and Derab had sweet conversation while lying in the bed. She is just lying beside him as art, something for him to look upon. She is simply a common pleasure for a king. Besides, it is of great expectation that the king would have the best pick of the litter, both as his lovely bride and as his concubines. As he relished in his wine, daily live performances, and concubines, King Derab also relished over Princess Nahid. The king enjoyed her gorgeous

image, but he was quickly turned off by the bad odor of her breath. Male or female, we all may have experienced some form of bad breath, especially the bad breath that is well known as "morning breath." But is someone's spouse or significant other breath so bad that they could reject them? Nahid did not have the power or authority to express herself according to the text. She was to simply be beautiful for King Derab.

In addition, Ferdowsi demonstrates voiceless women in a society dominated by men is Nahid did not give consent for the doctor to examine her. The medical advice was solely considered and decided by Derab, who was the owner and husband of Nahid: "He sent knowledgeable doctors to her, one who was especially expert was able to find a remedy" (963). Derab sent for the best doctors to cure Nahid's bad breath. The medical issue that Nahid was dealing with was cosmetic, so it was not a necessity, but apparently to King Derab it was. The text explains the herb that could cure Nahid's bad breath: "There is an herb that burns the palate, which they call Sekandar in Greece, and he rubbed this against the roof of her mouth" (963). There was an herb available to treat Nahid's beautifying issue. But Nahid did not give consent for the doctor to administer the herb. Her consent was not essential considering she was property of her husband, Derab. Nahid was uncomfortable with the herb: "She wept a few tears and her face turned as red as brocade, because it burned her mouth, but the ugly smell was gone" (963). The herb was painful to Nahid. The text reveals her complete conformism during the entire process. The text does not say that anybody consoled her or asked how she

felt or if she was okay. She endured the pain it cost her to make the bad odor go away. She endured not only in pain from the herb Sekandar, but she suffered inwardly due to the root of the matter, conformity.

Moreover, Ferdowsi demonstrates voiceless women in a society dominated by men because Princess Nahid was not sufficient for King Derab, and he lost love for her, but she was also in complete silence about her pregnancy. As a result, he sent her back home to her father while expecting. Nahid's breath is now sweet for King Derab, so he should be satisfied with his bride: "But although this beautiful women's breath was now as sweet as musk, the king no longer felt love for her. His heart had grown cold toward his bride, and he sent her back to Filqus. The princess grieved, because she was pregnant, but she told no one of this" (963). The king was not satisfied with his bride even after her condition was cured. Her breath now had a sweet aroma, yet it still was not enough for him. In addition, Princess Nahid's powerless position is in her silence about her pregnancy. She is carrying King Derab's baby, and she grieves in silence. She grieves not because the king treats her as his property, but because she was pregnant by him. Perhaps she would rather have been pregnant by anyone but him. Conceivably this silence was her strength. Consider what life would have looked like for her if she revealed her pregnancy to the king. The power men had over men allowed King Derab to reject Princess Nahid because she was insufficient to him, and he sent her back to her father pregnant as a single mother.

Furthermore, to identify the power Derab has over his wife Nahid, one must research the customs relating to marriage during the period The Shahnameh was written. Who determined the order of marriage for a girl, when she may wed, and who she may wed? In *Women in The Shahnameh: Their History and Social Status within the Framework of Ancient and Medieval Sources*, Djalal Khaleghi Motlagh re-

veals marriage customs during the period when The Shahnameh was written: "Once a girl reached maturity, it was considered her father's right and obligation to find a pious man for her to marry" (108). Arranged marriages were and still are traditional in many cultures. What was considered the age of maturity for a female to marry? Unfortunately, The Shahnameh, does not leave any direct insight to the legal age of marriage for woman and man (107). The legal age for girls to marry during the period The Shahnameh was written, was just before their sweet sixteenth birthday. Iran plays a major role in The Shahnameh because Ferdowsi wrote The Shahnameh under the Iranian Sponsorship (Ferdowsi 961). Motlagh continues as he answers the question of the permissible age requirement for marriage: "However, one does not know how old they really were. The right age for a girl to marry in ancient Iran was 15 years, according to Vendidad, 14:15" (107). According to the Iranian laws during the period The Shahnameh was written, Princess Nahid was considered an adult. Notwithstanding the laws of the ancient time, it would be considered abuse in modern law for a 15-year-old girl to be required to marry. Additionally, Nahid's father, Filqus was a major influence as an authoritative role over her. Filqus arranged for her to marry King Derab, which highly could have been against Nahid's will. The text does not give any indication that she ever put up a fight or if she was pleased with the union or not. Nahid remains true to her character. She simply did as she was told in obedience to the men in her life, and it started with her father. Nahid's undeniable obedience is an example in The Shahnameh, which was ruled by men. It is evident that she was trained to be voiceless without a fight.

Equally important, there was a power struggle between Nahid's father, King Filqus and King Darab. The Shahnameh reveals within its work a society dominated by men. Marriage required the father's permission, but were

Darab and Nahid in love with each other? According to their tradition, love has very little to do with marriage. Perhaps there was a greater motive at hand for the marriage of King Darab and Princess Nahid. In *The Shah-Namah* of Fardusi, Alexander Rogers unfolds the story of the two kings, Darab and Filqus:

At that time one Filkus was king of Rum, an ally of the king of Rus (Russia). Being informed by him that Darab was leading an army against him, he assembles an army at Amuriyah and advances. In three days two battles take place, and on the fourth day Filkus and his army take to flight, and the former's wife and children are taken prisoners, a part of the army only escaping to Amuriyah. Peace is now made with Filkus, who gives Darab his daughter Nahid in marriage. (Rogers 352-353)

The two kings, Derab and Filkus were in a battle. King Filkus was defeated by King Derab. In order for Filkus to live peacefully, he had to give his beautiful daughter to Derab as a valuable prize that Derab won. Metaphorically speaking, Princess Nahid was to King Derab a trophy, which explains how King Derab handled her. He marveled over Princess Nahid's beauty so much that he polished her, and he lifted her up on a pedestal. When King Derab recognized she no longer fit his shelf as a trophy prize, he tossed her away. The purpose of their union explains why Princess Nahid was treated like property by King Derab. She was goods to him; a causality of war. Nevertheless,

Nahid remained voiceless to the men who had dominance over her even in the transaction of being turned over by her very own father to King Derab.

Nahid was a perfect example of women of her time in *The Shahnameh*. When one reads the first few paragraphs of *The Shahnameh*, as found in *The Norton Anthology World of Literature* textbook, they could very likely miss the character and role of Nahid and what she was trained and accustomed to. Very quickly a reader can simply see Nahid's beauty and miss her disposition. Nahid was educated at a very tender age to be a woman of conformity and passiveness. Women in *The Shahnameh* lived during an unsurpassable time frame. They were oppressed, and they were disadvantaged, yet they had no remedy. A person without a voice is simply one who does not matter to society. Women in *The Shahnameh*, as seen above, were treated as welcome mats. Men stomped, dusted, and brushed their feet upon them, and kept going. The feelings, thoughts and or concerns of the women were not of deliberation to these men. Princess Nahid was simply there to give pleasure, cook, clean, and bear children. So Nahid was used as a causality of war. So what if the Sekandar herb caused Nahid great pain. So what if Nahid was depressed due to carrying a dishonorable and unworthy king's child. Her thoughts and concerns went unnoticed simply because she was a woman and she was to stay in the place of subservience.

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Gender-Neutral Language: Pronouns and Beyond

Stacie Dowdy

Genderqueer, gender-fluid, non-binary: these are some of the terms used in reference to those individuals who fall under the transgender umbrella, but who either do not identify themselves as male or female, or who do not identify as male or female all of the time. Using gendered words when referring to these individuals, such as the pronouns he and she, or the honorifics Mr., Mrs., or Ms., can have a harmful and invalidating effect. In modern American society where a binary gender system is the norm, it is to be expected that language follows suit and has binary elements as well. While English is not as gendered as many languages, such as Spanish, French or German, it does have many gendered words. The feminist movement can be thanked for calling attention to and changing many of these words, such as the word server being more accepted than waiter or waitress, or the use of firefighter and police officer rather than fireman and policeman. To aid in the validation of a growing population of people who identify as transgender (specifically those who identify as non-binary, gender-fluid, or genderqueer), it is necessary that gender-neutral language become the norm, a change which requires thoughtfulness and effort.

In order to determine the need for a change to the English language, it is important to first acknowledge the size and growth of the transgender population. According to the article “Transgender Population Size in the United States: A Meta-Regression of Population-Based Probability Samples,” approximately one in every 250 adults in the United States identifies as transgender. This number equates to roughly

one million transgender Americans (Meerwijk e1). Drs. Esther L. Meerwijk and Jae M. Sevelius conducted a study in the summer of 2016 to estimate the size of the transgender population in America, as well as to determine if there were any trends in the growth or decline of this population over time (Meerwijk e1). Meerwijk and Sevelius found that the number of transgender Americans was difficult to ascertain, because the US Census and records kept by other agencies such as the DMV and National Archives, reported the legal sex of an individual when reporting sex at all (Meerwijk e2). Within these records there is no acknowledgement of whether the legal sex differs from the sex assigned at birth. The records also fail to give an option to report current gender identity, i.e., if the individual identifies as a sex different than their legal sex or identifies as either neither or both sexes (Meerwijk e2).

To determine a more accurate estimate of the number of transgender Americans, the authors searched for national surveys dated between 2006 and 2016 in PubMed, Web of Science, and the Cumulative Index to Nursing and Allied Health Literature. They also used Google to search for “gray” literature, searching for the terms “survey,” “health,” and “gender” under the internet domains of .edu, .gov, and .us (Meerwijk e2-e3). Gray literature refers to information produced by government entities, academia, or businesses whose primary intent is not for publication (University of Exeter). Surveys were excluded from the research if they were not based on national samples, if the surveys were not based on self-reported identities, if the surveys were “satisfaction surveys,” or if

the surveys were reviews or analyses of other surveys (Meerwijk e3). After excluding surveys that did not meet their criteria, Meerwijk and Sevelius were left with twenty surveys from five sources (Meerwijk e4).

Within the twenty surveys used in the author's final analysis, 65% listed transgender as gender identity, while the other 35% listed transgender as sexual orientation (Meerwijk e4). Because transgender as a sexual orientation does not reflect the current usage of transgender as a gender identity, a separate analysis was done for each of these groups (Meerwijk e4). According to their findings, "the estimated proportion of transgender individuals based on surveys that categorized transgender as gender identity was 0.39%...(where) college and university students represented the majority (58%), followed by general-population adults (24%), and adult inmates (18%)" (Meerwijk e4). Meerwijk and Sevelius's findings also showed an increase in size of population from 0.23% in 2007 to 0.45% of the population in 2015 (Meerwijk e5). The numbers for 2016 show 1.79% of the population; however, most of the computations used by the authors left out the 2016 survey from the National College Health Assessment due to it being an outlier, with the number of people identifying as transgender quadrupling in comparison to the 2015 survey (1,685 in a sample size of 94,376 in 2016 as compared to 416 in a sample size of 93,034 in 2015) (Meerwijk e4-e5). The authors conclude that their estimates are likely to be conservative, as the word transgender is used as an umbrella term, but does not always capture the gender-nonconforming and gender-variant individuals within the population, and that "the available evidence suggests that the size of the gender-nonconforming or gender-variant population may be twice as large as our best estimate for the transgender population size" (Meerwijk e6). Meerwijk and Sevelius also state that the "observed annual increase is not an increase in the true population size, but the

result of people feeling freer to report that they are or identify as transgender" (Meerwijk e5).

Recognition of the size and growth of the transgender population in America is important to realizing a need for gender-neutral language. In their 2016 article "Pronouns and Thoughts on Neutrality: Gender Concerns in Modern Grammar," authors Brandon Darr and Tyler Kibbey state that "slightly more than 1 percent of the 4,000 students" at Harvard University "have indicated a preference for gender-neutral pronouns through the university's registrar system" (Darr 72). Darr and Kibbey's article relies on research of literature in the field of linguistics to give an overview of how language plays an important role in how an individual's gender is identified, as well as delving into the historical aspects of linguistics that surround this issue in a social context (Darr 72). Although much of this article focuses on the etymology of pronouns which is not relevant to the topic of this literature review paper, the authors posit that "the English language must reflect societal awareness of linguistic representation" (Darr 74).

Darr and Kibbey's article explains that pronouns are used to avoid redundancy, giving the example of "Janet reviewed the syllabi for Janet's classes. Then, Janet bought textbooks" being simplified to "Janet reviewed the syllabi for her class. Then, she bought textbooks" to point out the repetition of the subject's name. The second statement is based on multiple assumptions: a) that based on appearance, or the name Janet, that Janet is a woman b) the pronoun she is used for women, and c) Janet identifies as a woman and thus prefers the pronoun she (Darr 74). The authors state that "these assumptions are based off mainstream English prescriptions that do not reflect all individual identities" (Darr 74). They go on to say that a common solution to avoiding misgendering due to these assumptions is to integrate pronoun preferences into introductions but point out that such introductions can be uncomfort-

able for students “whose preferred pronouns may not match their gender presentation and could expose their gender identity” (Darr 75). Darr and Kibbey conclude their article with a call for professors and students to use the singular ‘they’ as a way to not only avoid misgendering, but also to be inclusive of transgender and genderqueer individuals (Darr 82).

Lal Zimman, who is also a linguist, approaches the issue in a different way. In his article “Trans Self-Identification and the Language of Neoliberal Selfhood: Agency, Power, and the Limits of Monologic Discourse”, he states that:

Though linguists situate meaning as distributed across a (generally undefined) group of language users, trans people place definitional authority in each individual, at least when it comes to gender. From this perspective, each person determines how their identity should be spoken about and understood (Zimman 148).

Zimman’s observations are based on a series of ethnographic projects he conducted in online spaces frequented by trans people, as well as trans communities in metropolitan areas of the United States, including Portland, Oregon, the San Francisco Bay Area, and Denver, Colorado. Zimman’s projects were carried out between 2006 and 2016 (Zimman 149). Using the subjects of gendered identity labels, body part terminology, and third person pronouns, Zimman’s research “frames gender self-identification as an enactment of neoliberal personhood, in which individuals are framed as the driver of their destiny” (Zimman 147). According to Zimman, “identification as trans... does not require identification with a particular gender identity, but it does require some form of disidentification from one’s assigned sex” (Zimman 150). Like Darr and Kibbey, Zimman’s research finds that gender attributions often derive from assumptions made from a person’s appearance but goes further to say that this assumption is based on the idea that there can be only one “correct” gendered form for any given individual (Zimman 152-153).

Zimman finds that in the trans community, the individual is the ultimate source of authority about their own gender, which is why the presupposition of others portrayed through their use of gendered words, can be seen as a rejection of a trans person’s identity (Zimman 155).

Through interviews with approximately 100 people over a ten-year period, Zimman would ask interviewees to define words like man, woman, masculine and feminine. The typical response within the trans community is that a man is someone who self-identifies as a man, a woman is someone who self-identifies as a woman, etc. (Zimman 157). Here again it can be seen that applying gender neutral terms such as person rather than man or woman can help avoid the possibilities of accidentally misgendering someone whose self-identified gender has not been specified.

In his research Zimman, like Darr and Kibbey, discusses the third person pronouns he/him/his and she/her/hers. Zimman states that these pronouns are “the most frequently occurring linguistic clues about how speakers perceive one another’s genders” (Zimman 159). Zimman argues that it is this frequency of use, along with the lack of conscious thought in using a pronoun, which makes correct pronoun usage a key component in trans validation. “Someone might be saying all the right things to affirm trans identities when they are putting thought into their language, but the pronouns they use have the potential to reveal more deeply ingrained patterns of thought; simply put, pronouns can reveal what you really think about someone’s gender” (Zimman 160). In his article, Zimman concludes that gender self-identification is indeed a form of neoliberal personhood, a state where each individual is both an agency and driver of their own destiny (Zimman 170-172).

Using pronouns in a new way or taking the time to use the correct pronoun when speaking to or about someone requires effort. This effort is the focus of Lee Airton’s article “The de/Po-

liticization of Pronouns: Implications of the No Big Deal Campaign for Gender-Expansive Educational Policy and Practice” (Airton, *The de/Politicization of Pronouns: Implications of the No Big Deal Campaign for Gender-Expansive Educational Policy and Practice* 790). Airton’s article seeks to prove that though using someone’s preferred pronouns takes extra effort, it does not take excessive effort, and it therefore does not pose a threat to free speech (Airton, *The de/Politicization of Pronouns: Implications of the No Big Deal Campaign for Gender-Expansive Educational Policy and Practice* 790). In their research (Airton identifies as non-binary and uses they/them pronouns), Airton begins with a review of relevant literature on the experiences of non-binary people in Canada. Airton found that there was insufficient literature on the use of gender-neutral pronouns, or on the “micropolitical negotiation of gender neutral pronouns in everyday interactions” (Airton, *The de/Politicization of Pronouns: Implications of the No Big Deal Campaign for Gender-Expansive Educational Policy and Practice* 791-792). Using queer theory, affect theory, and Deleuzo-Guattarian assemblage theory, Airton developed a theoretical framework to determine what would qualify as extra effort versus excessive effort, and then applies this framework to the use of gender-neutral pronouns (Airton, *The de/Politicization of Pronouns: Implications of the No Big Deal Campaign for Gender-Expansive Educational Policy and Practice* 792-795). Airton defines extra effort as “labour that is felt to be unremarkable and justifiable by the subject” and excessive effort to be “labour that is found to be remarkable and unjustifiable by the subject” (Airton, *The de/Politicization of Pronouns: Implications of the No Big Deal Campaign for Gender-Expansive Educational Policy and Practice* 795). They continue to say that:

The distinction rests on whether I can narrate a demand for effort as an unjust demand on my time and energy, and whether

my narration will normalize my own refusal to meet the demand. If yes, the effort is ‘excessive’ and I receive no sanction for non-accommodation; indeed, if I am successful, the sanction itself and not my refusal become the event of ‘injustice’, for example. If I cannot narrate a demand as unjust, the requisite effort is merely ‘extra’, and I am liable to receive a sanction that others find justifiable (Airton, *The de/Politicization of Pronouns: Implications of the No Big Deal Campaign for Gender-Expansive Educational Policy and Practice* 795).

Airton demonstrates that it is the combination of the demand and the sanction received for nonadherence that determines whether something requires extra effort or excessive effort (Airton, *The de/Politicization of Pronouns: Implications of the No Big Deal Campaign for Gender-Expansive Educational Policy and Practice* 175).

In their article Airton goes on to describe the political backlash within Canada regarding Bill C-16’s legal protection of gender pronouns (Airton, *The de/Politicization of Pronouns: Implications of the No Big Deal Campaign for Gender-Expansive Educational Policy and Practice* 795-796). Airton describes a video posted by University of Toronto Psychology professor Jordan Peterson, which claims that the protection of gender-neutral pronouns “amounts to ‘compelled speech’, and therefore risks violating the right to freedom of expression enshrined in the Canadian Charter of Rights and Freedoms” (Airton, *The de/Politicization of Pronouns: Implications of the No Big Deal Campaign for Gender-Expansive Educational Policy and Practice*). Peterson’s speech implies that “pronoun protections would require one to say things with which one disagrees, under threat of sanction” (Airton, *The de/Politicization of Pronouns: Implications of the No Big Deal Campaign for Gender-Expansive Educational Policy and Practice* 796-797). While this argument over the legal protection of gender pronouns took place in Canada, it is indicative of

reactions to the use of gender-neutral language in the United States.

Airton describes their response to Peterson's allegations, an online campaign known as the No Big Deal Campaign. The No Big Deal Campaign, or NBD, uses infographics to explain not only the implications of Bill C-16, but also to highlight that though a trans person's pronouns are a big deal to the trans person, using that person's correct pronoun should not be a big deal to someone speaking with or about them (Airton, No Big Deal Campaign; Airton, *de/Politization* 799-804). Airton concludes that "micropolitically, gender-expansive policies and practices may succeed based on whether they can change how (mostly) cis-gender institutional actors feel about and narrate their own involvement in the institutional commitments demanded by law and policy in everyday life" (Airton, *de/Politization* 806). Airton's hope is that the NBD campaign can frame the use of gender-neutral pronouns as something that while requiring extra effort, does not require extra effort (Airton, *de/Politization* 806).

In addition to effort, changing the use of an element of language as integral as pronouns takes time. In 2015 Marie Gustafsson Sendén, Emma A. Bäck, and Anna Lindqvist wrote an article examining the changes in behavior towards the introduction of the word *hen* (a gender-neutral pronoun) to the Swedish language over a three-year period (Sendén). Their article, "Introducing a Gender-Neutral Pronoun in a Natural Gender Language: The Influence of Time on Attitudes and Behavior," though pertaining to the Swedish language, and examining behavioral changes in a country other than the United States, is pertinent in that it gives an example of what attitude and behavioral changes one might expect in the United States if similar changes are made. Following an extensive review of literature related to gender, gender politics, and gendered language, the authors developed six hypotheses, which are as follows:

"H1. Attitudes towards *hen* will become

more positive over time.

H2. Self-reported use of *hen* will increase over time.

H3. Sexism and right-wing political orientation will be associated with negative attitudes, as well (as) a lower use of *hen*.

H4. Age will be related to attitudes and use, such that younger people will be more positive, and indicate more use of the word, than older people. Gender is included as a control because some studies have shown that women are more positive to gender-fair language than men.

H5. A strong gender identity (as either a man or a woman) will be associated with more negative attitudes and less use. Interest in gender issues will be associated with more positive attitudes and higher use.

H6. Time will have a significant and independent effect on attitudes and use of *hen*, also when all other variables are controlled for" (Sendén).

To prove their hypotheses, the authors collected data from various places in Sweden at six different points in time between 2012, which marked the first use of *hen*, and 2015, when their article was published (Sendén).

The first two sets of data were collected by approaching people waiting at Central Station in Stockholm, the third and fourth sets of data were collected from students at Lund University, the fifth set of data was collected by approaching people in Lund, and the final set of data was collected from people who were recruited through an online advertisement (Sendén). Using a series of questions including "What is your opinion about the gender-neutral pronoun *hen* in the Swedish language," and "Do you use *hen* yourself," ranked on a seven-point response scales with set answers for each point, the authors were able to track the changes in acceptance of and attitude towards the word *hen* over a three-year period (Sendén). This study found that by 2013, 95% of respondents were familiar with the word

hen. Usage of the word hen caught on much more slowly, with 50% of respondents in 2013 saying they “never, or almost never” used hen, and 58% of respondents in 2014 saying they “never, or almost never” use hen, while in 2015 the group who “never, or almost never” use hen had dropped to 25% (Sendén). It is interesting to note that the number of people who used the word hen “very often or always” did not change significantly, with 13% in 2013, and 10% in both 2014 and 2015 (Sendén). The findings also showed that negative attitudes towards the use of hen decreased significantly over time, with 56.5% reacting negatively in 2012, 26.1% negative reactions in 2013, 17.5% negative reactions in 2014, and only 9.6% with strong negative reactions in 2015 (Sendén). This study also found that women adapted more quickly and were more positive towards the new word

than men, and as their hypothesis suggests, that politically conservative people were slower to adapt and held more negative views of the word hen (Sendén).

Adapting to new forms of language, particularly words such as pronouns which are typically used with little conscious thought, can be difficult, and as can be seen from the studies conducted in Canada and Sweden requires both effort and time. The articles by Darr and Kibbey, Zimman, and Airton illustrate the need for gender-neutral language both to be inclusive of the trans community, as well as offering validation to their self-identification. As can be seen in the first article, the population of Americans who identify as transgender is growing, making the need for inclusivity and gender validation evident.

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Twelfth Night: Pushing the Status Quo

Monika Haines

For England, the sixteenth century was a time in which literature, arts, and social life were flourishing. William Shakespeare showcases the Elizabethan era by implementing cultural aspects from his time period throughout his plays and poems. In particular, he was able to capture the innerworkings of class structures within a society. In *Shakespeare: A Marxist Interpretation*, Aleksandr A. Smirnov explains that at the start of the sixteenth century aristocracy was at large in England. They were given a place among the Parliament, seats within the court, and titles to vast amounts of land. This type of government left the majority of power in the hands of the wealthy. Smirnov made the connection that Shakespeare's works included aristocratic elements due to that being the favored form of government at the time. This structure helped develop the basis for a theory created by Karl Marx that examines the relationships between social classes (Smirnov). Marxist theory focuses on three different classes: the aristocracy, the bourgeoisie, and the proletariat. These classifications were used to describe members of the nobility, gentry/middle, and working classes. Marx's break down of social classes can be used to analyze and explain a character's behavior within the play. Shakespeare's comedy *Twelfth Night* reveals how the distribution of power can impact members of both the bourgeoisie and proletariat classes. This can be done by observing how the actions and motivations of the various characters are altered when attempting to grasp for more power.

At the bottom of the hierarchy is the proletariat and/or the working class. There are three characters from Shakespeare's play that belong to this class: the steward Malvolio, the

waiting-gentlewoman Maria, and the fool Feste. While Feste is happy with his life of roaming, Malvolio and Maria have hopes to one day move up in the world. Malvolio seemed to believe pushing his assigned limits of power and relying on the idea of fate would help him to advance in society. While the Countess Olivia is still in a mourning state, Malvolio is put in charge as head of servants. The amount of trust that Lady Olivia puts in him is not taken lightly by others. While the knights Sir Toby and Sir Andrew are enjoying a rather loud nightcap with both Maria and Feste, Malvolio attempts to scold and reprimand them for their behavior. Sir Toby, Olivia's uncle, challenges Malvolio's authority by asking, "Art any more than a / steward?" (II.3.114-115). When Malvolio realizes that the nobleman has indulged too much to adhere to any reason, he turns his attention to Maria. He proceeds to express that she too should feel obligated to prevent such an "uncivil" event from occurring and follows up with a promise to tell Olivia about her failure to do so (II.3.122). What Malvolio was unsuccessful at realizing was that his attempt at overpowering the mingling social crowd would result in him eventually being publicly humiliated. More specifically, those of the middle class agreed that Malvolio seemed to have forgotten where his place among society was.

After Malvolio's failed attempt to show authority over members of the bourgeoisie class, Maria took it upon herself to devise a plan that would both teach Malvolio a lesson and limit Sir Toby's behavior of excessive indulging. Her grand scheme involved forging a letter in her Lady's handwriting that would include a confession of love towards Malvolio

and instructions she wished for him to follow. Pointedly, the letter asked him to be “cross-gartered” and wear “yellow stockings” when approaching the Countess (II.5.157-158). Those who were a part of the scheme believed that if Malvolio were to follow the letter to the “t” then he would make a fool of himself, and Olivia would terminate his services. Although Maria was the brains behind the plot against Malvolio, she kept the peace among classes. She chose to remain in the shadows and play both fronts. In *A Marxist Study of Shakespeare’s Comedies*, Elliot Krieger expresses that Maria only wished for Sir Toby to simply limit himself and for Feste to be careful when excusing his transgressions (Krieger 118). This was achievable because her scheme kept both men occupied by having them become silent observers of Malvolio’s demise. For a member of the proletariat, her ability to captivate the attention of Sir Toby and control his habits did not go unnoticed. Both Sir Andrew and Sir Toby concluded that Maria possessed qualities similar to the queen “Penthesilea” (II.3.175). Essentially, they gathered that Maria’s work ethic and intelligence resembled the likes of the aristocracy. In addition to that, Maria was a dutiful servant for the Countess Olivia and was able to keep up her Lady’s wishes for maintaining the accustomed mourning decorum. Throughout *Twelfth Night*, Maria demonstrates her ability to successfully engage with members of the nobility without trying to undermine their authority.

Once Malvolio obtained the letter planted by Maria, his fantasy to move up began to feel both real and attainable. After reading the letter, Malvolio quickly came to the realization that the contents within the letter were destined to be. Once following the instructions written, he began to believe that his earlier proclamation of one day becoming “Count Malvolio!” was finally coming true (II.5.34). Krieger discloses that Malvolio is under the impression that he will be able to “jump class not as a result of the actions with the everyday world of

time that he is ordered to perform but through the transformation of the everyday world into a world of wish-fulfillment, of projected desire” (Krieger 122). Unlike Maria, it can be assumed that Malvolio does not feel as if he needs to work up into a higher-class position. Instead, he feels as if a spot among the bourgeoisie and/or the aristocracy is owed to him. His unfortunate birth status prevents him from being able to partake in any indulgent behavior. By becoming Count Malvolio, he would be given the authority to become the head of the estate, re-establish the accustomed order, and have power over those opposed of him. Unsurprisingly, Malvolio specifically claims that if he were to marry the Countess Olivia, he would make a show of his power by enforcing Sir Toby to perform “curtsies” every time the knight approaches him (II.5.60).

Out of the four involved in the nightcap incident, it is to be assumed that Sir Toby had the most to gain from the appearance of Malvolio going mad. As a member of the bourgeoisie, Sir Toby does not want to risk losing Olivia’s favor. Because he is from Olivia’s blood, Sir Toby had been granted access to all of the finery available at the estate (II.3.78-79). Krieger conveys that “only a privileged social class has access to the morality of indulgence” (Krieger, 99). Throughout Shakespeare’s play, on multiple occasions, Sir Toby is judged by each class for his excessive “quaffing” (I.3. 14) and “drunkenness” (II.3.73). However, he sees no issue with his lifestyle and simply only wishes to maintain it. One way that Sir Toby attempted to uphold his luxurious lifestyle was by pushing the idea that his good friend Sir Andrew Aguecheek would be a good fit for his niece, the Countess. He was quick to explain many of Sir Andrew’s appealing qualities. Some of them being that he earns “three thousand ducats a year,” can play the *viola da gamba*, and is fluent in more than one language (I.3.22-26). Although, it is clear that Sir Toby is most enthusiastic about the amount of gold that Sir Andrew would bring in. If the

nobleman was given Olivia's hand in marriage, Sir Toby would have the ability to oversee all of Sir Andrew's actions taken while being the appointed head of the estate. Thus, leading Sir Toby to have a large amount of influence over members of the both the aristocracy and bourgeoisie.

Overall, it can be concluded that the ruling nobility and middle classes believed in the preservation of their benefits and level of authority that came with their birth status. Shakespeare was able to use the character of Sir Toby to showcase what motivations members of the bourgeoisie have. On the other hand, a handful of the working class sought out opportunities to ascend the hierarchy and fight against their assigned class status. The steward, Malvolio revealed that advancement was not ideal for those who believed overpowering those around them

and only relying on destiny instead of putting in any effort. The gentle-woman Maria demonstrated how being a diligent worker and making the right connections would make it possible for a member of the proletariat to advance to the bourgeoisie class. Truthfully, it was her display of wit and dependability that made her a desirable candidate for the gentry. Like Maria, William Shakespeare worked for everything he earned. His continuous work and dedication turned him into one of the most recognizable writers in history. Shakespeare both created and maintained his own legacies. It is to be understood that no one is stuck in the social class to which they were assigned to at birth. *Twelfth Night* illustrates that there is a way to both advance and maintain one's desired position among societies social classes.

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Love Through Service in Twelfth Night

Zoe Hall

William Shakespeare's comedy *Twelfth Night* depicts several relationships with various entanglements. Obstacles such as unrequited love, mistaken identities, and class barriers add to the confusing situations. Prevalent themes in the relationships include love, desire, and service. Not every relationship in *Twelfth Night* is based on romantic attraction, however. Shakespeare writes of powerful friendships and master-servant dynamics in addition to romantic relations. The relationships portrayed in Shakespeare's *Twelfth Night* demonstrate that there is a connection between service and love through actions. Relationships that particularly showcase this connection are those of Viola and Orsino, Antonio and Sebastian, Olivia and Cesario/Viola, and Olivia and Malvolio.

Before delving into these unique relationships, it is important to define love and service for the context of this paper. Love is described as "A feeling or disposition of deep affection or fondness for someone, typically arising from a recognition of attractive qualities, from natural affinity, or from sympathy and manifesting itself in concern for the other's welfare and pleasure in his or her presence" ("Love, n.1."). Each of these aspects can be found in *Twelfth Night*, especially that of an individual's concern for another's wellbeing. Service is defined as "The action of serving someone or something; performance of the duties, role, or function of a servant; work done in obedience to and for the benefit of a master, mistress, etc." ("Service, n.1."). Service in the literal sense is evident in the play through the servants in Orsino and Olivia's households, but service can also refer to actions that benefit an individual not performing the action. These two themes,

love and service, are paired together throughout *Twelfth Night*; characters in the play desire to show other characters their love or affection for them through service -- or acts of service.

One prevalent example of the connection between service and love is present within Viola and Orsino's relationship. After surviving a shipwreck incident, Viola seeks out a service position under Orsino while disguised as a man called "Cesario." This situation creates a master-servant dynamic between the two characters. Viola secretly falls in love with her master after joining his household. In this relationship, service preceded love; nonetheless, there is still a correlation between the two concepts. When speaking about Viola and Orsino's relationship, among others, David Schalkwyk asserts that "Service facilitates the erotic dimensions of these relationships" (90). In other words, service may not have derived from love but instead service kindled the "erotic" feelings that Viola experiences. Because of Viola's position and consequent proximity to Orsino, the fond feelings she holds for her master grow into desire for a romantic relationship. Michelle M. Dowd insists that "Viola pleads for her own romantic desires using language borrowed from an older, courtly tradition of romantic service." In this claim, Dowd is referring to the way in which Viola expresses her affection to Orsino. Viola obscurely admits her love for him, then immediately carries out actions that please Orsino, despite his unrequited attraction (Shakespeare 2.4.96-137). Viola's actions and dedication to Orsino connect love and service to each other because of her desire to please him out of love. This correlation relates back to the idea that serviceable actions can also stem from love.

A strong bond between the characters Antonio and Sebastian also ties love and service together in a powerful way. The two men come from differing backgrounds; Antonio is a sea-captain, while Sebastian descends from a noble family. In this relationship, it is Antonio who shows devotion to his friend. He discovers and rescues Sebastian at sea, and this first act of service creates a close bond between them. Antonio explains, "His life I gave him and thereto add / my love, without retention or restraint / all his in dedication. For his sake / did I expose myself, pure for his love" (5.1.78-81). In these lines, Antonio reflects on rescuing Sebastian and perhaps nursing him back to life. His statement clearly showcases the connection between service and love. Antonio is suggesting that his act of service caused him to bond with Sebastian, and the passion that developed for his friend influenced him to crave Sebastian's happiness and wellbeing more than his own. An example of this behavior is when Antonio offers Sebastian his change purse for an outing, an act that took trust and devotion (3.3.41-52). It is interesting to consider the brotherly bond experienced by Sebastian next to Antonio's deep devotion. Perhaps Antonio is experiencing romantic attraction towards Sebastian, in which case their situation would result in unrequited love as well. Nevertheless, Antonio insists on providing for, being near, and supporting Sebastian. He pleads, "If you will not murder me for my love, let me / be your servant" (2.2.34-35). In this line it appears as though Antonio believes service to Sebastian will cause Sebastian to reciprocate love. Schalkwyk presents a similar thought when he suggests that Antonio "...is in fact pleading to be allowed to be Sebastian's servant in the literal sense, because such service offers the opportunity for him to indulge his passionate attachment to his friend" (94). To restate, Schalkwyk argues that reciprocated love could derive from service. In Antonio and Sebastian's relationship, neither service nor love precede the other, but there are

instances of both throughout their encounters. Love and service were met together in several ways to form a passionate attachment.

Another relationship to consider when focusing on love and service is the dynamic between Olivia and Cesario/Viola. Their interactions showcase love preceding service, and their story focuses more on the literal aspects of servantry. Olivia, a noble lady desired and courted by Orsino, falls in love at first sight with Viola disguised as "Cesario" from Orsino's household. Olivia experiences unrequited love from "Cesario." A lack of reciprocated affection could possibly motivate characters to show more serviceable traits, such is the case for Olivia. She is so motivated to capture Cesario/Viola's heart that she continuously seeks their presence and discreetly offers gifts, such as jewelry (1.5.307-309). By seeking out a physical closeness, Olivia hopes "Cesario" will develop feelings for her. Schalkwyk insists that the literal condition of being someone's close servant and dedicating oneself to them creates a potential for growth in affection, or vice versa (93). In Olivia and Cesario/Viola's relationship, service itself does not necessarily create romantic feelings between the two characters, but instead, acts of service succeed the love and desire of Olivia. Service is sought out as a means to receive love in this relationship.

Relationships in which characters do not display affection for each other, such as the one between Olivia and Malvolio, still present a connection between love and service. Malvolio, Olivia's head servant, is dedicated to serving her but hides his ambitions of marriage. The class status that Malvolio would gain by marrying Olivia is his primary motivation for attempting a relationship with her; it appears as though he does not truly love Olivia. He dreams of becoming "count Malvolio" and pictures,

Calling my officers about me, in my /
branched velvet gown, having come from a
daybed / where I have left Olivia sleeping....
And then to have the humor of state; and / after

a demure travel of regard, telling them I / know my place, as I would they should do theirs... (2.5.46-53).

Overhearing these “ridiculous” fantasies, another member of Olivia’s household, Maria, decides to play a trick on the man she deems foolish for desiring advancement. Maria plays a key role in connecting themes of love and service together in what otherwise would be presented merely as a vain attempt at marriage for the purposes of upward movement in society by a servant. She forges a love letter from Olivia to Malvolio, adding an element of romance to the servant’s selfish schemes. Dowd makes a connection about Maria’s actions and argues that her “...plan to deliver a forged message of love to Malvolio parodies Viola’s own role as Orsino’s servant, a role that requires her to serve as Orsino’s love emissary.” In referencing Viola’s role as a messenger for Orsino and Olivia, Dowd hints at Maria’s equal importance in creating an association between love and service for Olivia and Malvolio. Dowd later explains that Maria manipulates “...the role of a servant as love emissary...” The most prevalent connection between service and love in Malvolio and Olivia’s relationship is Malvolio’s literal service to Olivia and the imagined feelings from “Olivia” presented by Maria. Because of Maria’s trickery, Malvolio is believed to be mad, and he gains neither love nor social status. Despite there being no real love connection

between Malvolio and Olivia, Shakespeare still manages to relate the themes of love and service to each other through these characters’ interactions alongside Maria.

Shakespeare presents possibilities for individuals to marry outside of their class, suggesting an absence of class barriers, yet by the end of *Twelfth Night*, characters have been paired with partners who are equal in social status. Those who have not found a partner in their own class, such as Antonio and Malvolio, are left without love at all. Shakespeare writes of these characters’ desire to love without boundaries, while also emphasizing the apparent impossibility of breaking the social and class barriers of his time. Despite the issues his characters face in their search for “true” love, Shakespeare successfully connects ideas of service and love to each other throughout the entirety of *Twelfth Night* through the characters’ relationships, thoughts, and actions. The ideas that love derives from service or that service is a consequence of love are both valid and present themes in Shakespeare’s work. Service can influence love, and love can cause one to perform acts of service. Perhaps Shakespeare recognized that the concept of love, in all its forms, includes acts of service and would continue to for centuries to come. The presence of universal themes in Shakespeare’s work is one possible reason why he remains such a timeless poet to this day.

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The Influence of Social Media on Young Adults

Hayes Jiranek

In eighth grade, I signed up for Facebook, Snapchat, and Instagram. A couple of years later, I signed up for Twitter. Since then, my presence on social media has fluctuated, but I have been scrolling through these platforms on a daily basis for several years. A few months ago, shortly after my 22nd birthday, I removed those platforms from my phone. Although my accounts remain open, I have effectively removed social media from my life. I do not miss it. Since the invention of smartphones, social media has surged to become a part of everyday life for today's youth and young adults in developed countries throughout the world. Platforms such as Facebook, Snapchat, Instagram, Twitter, and Tik Tok have become an intrinsic part of modern-day communities and society. Has it gone too far? People can share anything and everything in seconds with a few taps of their fingers. Additionally, those who own smartphones have constant access to these social media platforms. The result is a culture that perhaps puts too much emphasis on sharing their accomplishments and adventures, which can often turn into a competition of sorts, where many seek the approval of their peers every day. Although social media can offer support and suggestions for living a healthy life, the damage these platforms can have on the young adults viewing them, such as impacts to their self-confidence, body image, and mental health, can create a toxic environment that is hard to escape.

Today's young adults are constantly taking and sharing pictures for the world to see. On photo-based social media platforms such as Instagram and Snapchat, a high value is placed on the physical appearance of the user. This is

especially true for young women, who have always dealt with additional scrutiny and judgment when it comes to their looks. A study conducted in 2018 by Dr. Sophia Choukas-Bradley and associates in the fields of neuroscience and psychology explores how photo-based social media can influence the everyday life of undergraduate women. In this study, Choukas-Bradley et al. introduce a construct they termed "appearance-related social media consciousness (ASMC)," which they define as, "the tendency for a woman's thoughts and behaviors to reflect an ongoing awareness of whether she might look attractive to an online audience" (473). In 2014, an estimated 1.8 billion photos per day were being shared via social media, a number that continues to rise (Choukas-Bradley et al. 473). The results of this study found that young women are spending time thinking about how they may appear on social media even when they are not actively using their phones. More specifically, young women are distracted by thoughts of how they might appear on social media, often preparing themselves for the possibility of a picture being taken and shared later that day (Choukas-Bradley et al. 479). In conclusion, this study shows that social media introduces a new form of objectification when it comes to young women and their appearance. Social media can influence the thought process of young adults even when they are not actively using the platforms.

In addition to thinking about how they may be perceived on social media, some young adults may take their concerns a step further. Oftentimes, photos are edited by the user before being posted online. A review by Rounsefell et al. in *Nutrition & Dietetics* ex-

plores this approach. This Australian review compiled and analyzed data from 30 different studies conducted worldwide, stating that “on-line appearances were considered important with participants using photo editing filters, and fashion choices and promotion of their physique and fitness achievements to accomplish this” (Rounsefell et al. 36). Additionally, multiple photos are often taken in the search for the perfect post. Whether it be selfies, candid photos (which are often staged), or other images, different angles and filters are often explored during the process of taking and posting an image. More often than not, only the best photo of the bunch makes it online. In addition to filters and angles, there are also applications available for download on smartphones that are designed to alter images of the body. These applications give their users the ability to contour their bodies into their ideal shape. That is, users can make their bodies appear skinnier, curvier, or anything in between. The fact that young adults are altering the shapes of their own bodies before sharing their pictures online is nothing short of disturbing.

Not only can social media influence the perception and display of one’s self-image, it can also impact health-related decisions such as diet and exercise. Furthermore, social networking can spur comparison and even competition amongst its users, who often turn to social media in search of validation. In 2019 author and dietitian Kim Rounsefell, along with several associates, posted a review in *Nutrition & Dietetics* asserting that “exposure to idyllic images was associated with greater negative body talk, drive for thinness, or healthy eating” (Rounsefell et al. 36). Essentially, viewing popular images that embody health and fitness can trigger negative thoughts of self-image. It is a good thing when these images inspire the viewer to make lifestyle changes toward healthier habits. However, when these posts prompt comparison and body dissatisfaction, the result is an unhealthy environment of self-loathing. On

one hand, images of junk foods can trigger hunger and unhealthy cravings. On the other hand, social networks can be a line of support and inspiration for a healthier lifestyle. Social media can be “considered an essential platform for health professionals to reach and engage with young adults to encourage healthy behaviours” (Rounsefell et al. 37). For example, there are many posts about workout routines, diet suggestions, and advice for leading a healthy life. The relationship here is complex, and although health and fitness pages may seem harmless, at the very least they often set lofty standards and label thinness and extreme fitness to be the ideal lifestyle.

Social media can influence young adults’ self-image in various ways, but there are also other consequences to these platforms. Several studies have explored how these networks can impact the mental health of their users. There is a notable relationship between social media use and symptoms of depression and anxiety. Academic psychiatrist and author Nassir Ghaemi made a shocking claim in his 2020 research report, stating that “reducing social media use in a depressed young adult can have a similar benefit as treatment with an antidepressant” (358). This remark, which is backed by evidence from multiple studies, is very concerning. As someone who has dealt with depression, social media can often feel like an outlet or a distraction from depressive symptoms. However, the numbers clearly show that excessive use of social media inhibits the recovery from depression.

One explanation for this association is the fact that social comparison habits can cause psychological problems, as many young adults who suffer from these issues may struggle when viewing their peer’s accomplishments (Tuan et al. 295). For example, as someone who got off to a low start in my college career, I have struggled with seeing posts of my friends celebrating their college graduation. Additionally, excessive social media usage offers a significant risk to the

user's levels of depression and anxiety (Tuan et al. 295). Less time spent on social media will allow more time for constructive and productive activities, rather than sitting around and staring at a screen. For those young adults dealing with depression, limiting or eliminating the use of social media can have healing powers. Of course, this relationship can vary on a case-by-case basis, and there can be positive effects of social media as well, especially when used in moderation.

In the future, understanding the relationship between depression and social media use will hold value for many reasons. For example, a research article from the University of Pittsburgh discusses social media use, noting that "it is important for clinicians interacting with young adults to recognize the important balance to be struck in encouraging potential positive use but redirecting from problematic use" (Lin et al. 328). Additionally, today's young adults should understand their own relationship with social media and recognize when it is triggering negative thoughts. A research report from Parkview Research Center focused on how social media can offer social support to college students. The results were mixed, as the majority of students in this study identified social media as both a form of support as well as a stress inducer (Drouin et al. 499). The findings from this study emphasize just how subjective social media can be, displaying that it is perceived as both useful and harmful. Furthermore, roughly sixty percent of the students agreed that seeking support through social media would be easier and more helpful if they did so anonymously (Drouin et al. 501). An anonymous support system is an interesting concept, and using so-

cial networking to connect users anonymously to various support systems would be beneficial. In conclusion, there are several ways to take advantage of social media, and it can certainly be a valuable resource of support. However, very few solutions are readily available to solve the problems caused by social media, and much of the responsibility to mitigate these issues falls upon the individual using these platforms.

Honestly, I was not aware of the damage social media had on my mental health until I removed the applications from my phone. I have found it a lot easier to focus on myself when I am not constantly viewing posts and updates from my peers. Far too often, I would catch myself getting aggravated by their posts because I found them either pointless or boastful. Yet, at the end of the day, my opinion of their posts does not matter, and I was fostering that negativity every time I signed in to the network. My experience with social media, like everyone else's, is unique to my personal life. Some may find comfort and support in these platforms; others may find useful suggestions and advice. However, regardless of personal experience, we must recognize the challenges and damages that these networks can inflict upon their users. The uprise of social media has been abrupt, and although the connections formed through these networks have value, the damage they cause often goes unnoticed. From depression and anxiety to health and body image, many issues have arisen or been exacerbated by the prevalence of social media. As the world becomes more dependent on digital connections, it is essential to consider and react to the countereffects of these networks.

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Premarital Teen Pregnancy as Influenced by Substance Use

Leah Keith

Premarital teen pregnancy is an ongoing issue that has countless contributing factors. The United States has one of the highest rates of teen pregnancy in the developed world, leading the reported number of adolescent pregnancies compared to Great Britain, Canada, France, and Sweden by 7% (Darroch, Singh, et al 244). Popular examinations of this problem include sexual health education in schools, adolescent contraceptive use, and religious teachings such as abstinence only and what effect it has on teenage sexual activity. An influence on unintended teen pregnancy that is less researched involves marrying it with another intense issue among teenagers: drug use. Correlations between drug use in teens and unintended pregnancy as well as abortion due to an unintended pregnancy are beginning to be further researched.

Without a large amount of research or data on the correlations between unintended teen pregnancy and teen substance use, researchers Martino, Collins, et al. sought out to conduct a study that would provide an explanation as to whether there is any link between drug use in middle and high schoolers and unintended pregnancy up until age 29. Additionally, the researchers were interested in whether a decrease in drug use could result in a lower rate of unplanned pregnancies and abortions.

Martino, Collins, et al. specifically examined the likelihood of abortion in participants who unintentionally got pregnant and whether or not they engaged in use of any variety of drugs. The researchers used event history analysis that followed 1,224 women from adolescence to age twenty-nine and looked at wheth-

er or not drug use in teenage years increased the likelihood of abortion by age twenty-nine. The variables used in the study were race, parental education, whether the participant grew up in a two-parent household, and drug use. Each variable was individually tracked within the path model, showing its relationship to unplanned pregnancy and abortion, respectively.

The highlighted variable in the study was the role of what the authors named “unconventionality,” the idea that people who were engaged with family institutions like school and church at a young age were less likely to stray from those values, therefore taking the “conventional” path. Those who were not socialized with these family values hold them less sacred, increasing their likelihood for rebellious or risky behaviors like drug and alcohol use and unprotected sex. Explaining their hypothesis about how a substance user with unconventional personality traits could relate to having an abortion at a young age, the researchers say, “Because they are less engaged with these [conventional] institutions and their norms, substance users may be more likely than nonusers to obtain an abortion when they have an unplanned pregnancy” (Martino, Collins, et al. 66). This idea is complemented by the data gathered from the study, explaining that increased rebelliousness, a lack of or a low dedication to religion in a woman at grade twelve was found to have a positive correlation with them choosing to get an abortion when dealing with an unplanned pregnancy.

At the conclusion of the study, it was confirmed that there was a positive correlation

between substance use and abortion within the participants. This idea was expanded on and explained using assumptions based on which drug was in question. For example, researchers hypothesized that marijuana users may have chosen to terminate their unplanned pregnancy due to potential effects marijuana may have on fetal development (Martino, Collins, et al. 72). All links between substance use and abortion were caviatted by the idea that the abortion in question was a decision made because of an unplanned pregnancy specifically, which could be explained by a a drug user's inherit lack of judgement or self respect due to their choice to use said drugs. In the end, the study did not conclude that a reduction in substance use alone would result in a decrease in abortion or unplanned pregnancy.

A 1992 study done by Barbara Mensch and Denise B. Kandel examines a similar link to the previous study. The authors of "Drug Use as a Risk Factor for Premarital Teen Pregnancy and Abortion in a National Sample of Young White Women" sought out to discover the correlation between two mysterious statistics of the United States: teen pregnancy and drug use, respectively, are disproportionately high in the United States when compared to other developed countries (Mensch, Kandel 410). In hopes of discovering the common denominator of these two issues, the researchers set up a study that used an event history model following women from the age of first sexual encounter and tracked the rate of pregnancy up until age nineteen. Event history models indicate the likelihood of an event occurring with the influence of an independent variable. In this case, the event is adolescent pregnancy and the independent variable is drug use. The researchers created categories of analysis for each respective drug being tracked in the study: no drugs, only cigarettes and/or alcohol, marijuana, and any other illicit drugs. This separation of categories was done to better understand the impact that each type of substance exclusive-

ly may have. Other variables such as lifestyle choices and family background were also included in the study.

The study concluded that the risk of experiencing an unplanned teenage pregnancy is four times greater for those who had used drugs that did not include marijuana than those that had not engaged with any substance. The researchers found that in each type of involvement with substances they tracked in their event history analysis, a quarter or more of the women from each category would later have an unintended teen pregnancy. Twenty-five percent of both marijuana users and alcohol or cigarette users would experience an unintended pregnancy and thirty-eight percent of users of illicit drugs would, compared to the fifteen percent of women who experienced an unplanned pregnancy and did not use any substances (Mensch, Kandel 418).

An analysis done in 1997 by Kazuo Yamaguchi and Denise Kandel sought out to identify the major causes of premarital teenage pregnancy. In "Drug Use and Other Determinants of Premarital Pregnancy and Its Outcome: A Dynamic Analysis of Competing Life Events," many determinants were tested including prior illicit drug use, using a two-step process. The sample used was a group of 706 young women, most of whom had participated in a survey when they were in high school. Nine years after that survey, they were interviewed, along with former students from the same school who did not take the survey. The interviews were conducted using time charts the participants had to track the occurrence of events monthly. Applicable participants provided their history of drug use. Event history analysis is used in this study to estimate how the occurrence of an event can be correlated to a later occurrence. The researchers found that "use of illicit drugs other than marijuana, are associated with a two- to threefold increase in the risk of a premarital pregnancy" (Yamaguchi and Kandel 257). They also learned in their analysis that

women who either used illicit drugs in the past or had at the time of the study were twice as likely to experience an unintended pregnancy, but current users had an even higher likelihood of getting pregnant before marriage. Of the severity of the risk of premarital teen pregnancy among illicit drug users, the researchers said, “the present findings underscore the importance of involvement in illicit drugs other than marijuana as a factor that identifies a group of adolescents at especially high risk of experiencing a premarital pregnancy” (Yamaguchi and Kandel 267).

The 1992 journal article “Substance Use and Other Factors Associated with Risky Sexual Behavior among Pregnant Adolescents,” published in *Family Planning Perspectives* analyzed the relationship between substance use and sexual behavior in 241 unmarried pregnant women who were aged twelve to seventeen. This study uses data provided by women who are already pregnant within the demographic being studied. Gilmore, Butler, et al. were seeking to develop programs that could offer warning against unintended pregnancies, especially in adolescents. To achieve this, though, they had to first identify some of the most prevalent risk factors that could be contributing to high teenage pregnancy rates. Factors such as drug and alcohol use were measured both by use at the time of a sexual encounter and not at the time of a sexual encounter. This was done to determine whether or not being under the influence of substances during sex decreased the likelihood of preventative measures such as contraception use.

Before the study commenced, the researchers used knowledge gathered from other studies to form a foundation for their work. They identified that substance use was directly associated with teenagers who had engaged in sexual activity in high school (JD Hundleby et al.). To obtain this information, the 241 participants were interviewed over an eighteen-month period. The interviews con-

tained many questions relating to the participants’ lifestyle including their use of alcohol, cigarettes, marijuana, and other illicit drugs. Some questions asked included, “Before you were pregnant, how often were you under the influence of drugs like marijuana, cocaine, or amphetamines when you had sex?” (Gilmore, Butler, et al. 258). Similar questions were asked about alcohol consumption.

The percentage of the pregnant women who said they had used substances including alcohol, marijuana, cigarettes, and other illicit drugs was compared to the percentages of those who had done so from a national group of female high school seniors. It was concluded that the pregnant women who participated in the study had higher rates of use of the substances listed. To the researcher’s confusion, the effect substance use had on the rate of risky sexual behavior vanished in the multivariate analysis. This implies that substance use alone did not have an impactful effect on the likelihood of risky sexual behavior when calculated alongside the other variables being tracked. Because of this blip in results, the researchers theorized that there was an underlying problem that was the driving cause of all the variables that were tested. This ties into the focus on “unconventionally” Martino, Collins, et al. studied. Although a positive correlation between substance use and premarital pregnancy was found in the study, the results were decided to be inconclusive. Because the multivariate analysis caused the effects of substance use to disappear among the effects of other factors related to risky sexual behavior (Gilmore, Butler, et al. 255), the researchers concluded that substance use could directly attributed to increased risk taking during sex.

There is sparse research on this subject, but studies ranging in the last four decades all track a similar trend of social unaccepted behaviors and circumstances regarding class and education. This focus on “unconventionality” is reflected in a 2018 journal article that examined

smoking risk in teenaged childbearing women. The authors state that teen childbearing women are often described as being at a “social disadvantage, being more likely than other adolescents to engage in unhealthy behaviors such as problematic alcohol use, marijuana use, and delinquency” (Mollborn, Woo et al. 624). It is acknowledged that in addition to the stigma of being a pregnant adolescent alone, such a presentation of a nontraditional behavior like early sexual intercourse can become combined with other stigmas such as depression and drug use. This, in turn, can result in an attraction to or development of such behaviors, contributing to the correlation between drug use and teenage

pregnancy. This is a consistent conclusion in studies regarding this correlation from the past few decades.

Across the four studies, a positive correlation between substance use, especially illicit substances, and premarital teenage pregnancy was found. It is important to consider many other contributing factors to the occurrence of these pregnancies such as education status, family life, and social life, however. On its own, it is clear that a teenaged individual’s likelihood of experiencing an unintended pregnancy increases with the use of alcohol, cigarettes, marijuana, and other illicit drugs.

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The Sun Never Sets: Perseverance Through Persecution

Samuel R. Plymale

For most of the West, the term of persecution has been shifted from its intended use to something much more benign. While America laments and considers being asked to wear a cloth mask during a pandemic and labels this stripping of freedom to be persecution, a reader does not have to wander far to discover this is not the truth. Even in the first half of the 21st century, there are individuals, groups, and cultures who are not even asked of their opinion on life-changing, or potentially life-ending choices for themselves. Rather than simply raising one's hands and conceding to the powers-that-be, authors throughout ENG255 have provided substantial evidence to the importance of recognizing difficult times and striving with perseverance through them. In comparing Edwidge Danticat's *The Farming of Bones* (FOB), and Lu Wenfu's, "The Man from The Peddler's Family," ("Peddlers"), the character development of major characters illustrates the importance of perseverance, and not simply giving up during conflicts both internally and externally.

As life eagerly reminds us, sometimes choices are out of one's control. This can be seen both in FOB and in, "Peddlers," as characters from both of the stories struggle to find any semblance of joy in a world that would rather they not exist. For FOB, Amabelle, a Haitian native living in the Dominican Republic (DR), fights for her life through the Parsley Massacre, a traumatic week at the end of 1943. For, "Peddlers," the reader is introduced to a friendly salesman named Zhu Yuanda who is beaten and partially exiled through China's Cultur-

al Revolution between the 1960's and 1970's. Both of these characters explore how surviving hardships and growing from them, and provide strategies for self-improvement through perseverance.

Amabelle and many of the characters she interacts with in FOB are terrorized by the DR's usage of propaganda, xenophobia, and violence against Haitians living there (Danticat 96, 133). While some of the interactions with external forces are stronger than others, such as Fr. Romaine's capture and mental-torture, all of the characters are affected by this Massacre. Even with this information, the two the reader is able to follow the most intimately are Yves and Amabelle. The pair arrive in Haiti and begin their new life, and the differences in their coping becomes evident as Yves begins farming, and Amabelle begins contemplating alone in a property they live together in (270). Both characters begin reconciling their external pressures within themselves by speaking of, "dead seasons," one is handled by Yves' constant toiling to remain absent-minded to process the horrific events of the Massacre, while Amabelle's is much more internal, finding joy in activities and relationships, but feeling as though she is in, "never ending night" (263-265). Unfortunately, these external shifts are not isolated events, and happen throughout the world.

In Wenfu's, "Peddlers," rapid, external conflict appears to Zhu, a village's food-seller, as he is eventually beaten, his home raided, and is sent away for being a Capitalist during China's Cultural Revolution. During the story, we see Zhu begin as a jovial salesman, only to

receive a formal citation from the government authority, being threatened that the Chinese Community Party (CCP) will destroy anything that, “smacks of Capitalism” (Wenfu 201). These threats rise to fruition as Zhu is exiled from his home-village and sent outward to find a way to live (208). Zhu, however, seems more jovial than either Amabelle or Yves through external pressures, being both friendly with those who reported his peddling stand, as well as after being injured and sent to a new village for work. This can be seen in his humor, as even being prosecuted for profiteering, he simply winks and promises to, “be a little smarter next time” (203). While these are examples of external expressions of trauma, all three characters begin to understand perseverance in a different way.

For Yves in FOB, his internal trauma is eerily silent, likely due to Amabelle and his’ relationship over the years since the Massacre, as Amabelle thinks, “[her] mere presence reminds him of a great betrayal” (Danticat 270). Seeing almost always working, Yves appears to have created himself into an automaton, simply too busy to think about what he has gone through. Amabelle, however, can be seen constantly considering and contemplating her calamities. In remembering Sebastien, Amabelle laments that, “[The] past is more like flesh than air,” showing that her past has become intertwined with her, and her drive to be at peace with the new addition is insatiable (281). This is a situation that Zhu finds himself in during China’s Cultural Revolution.

While a revolution happens around Zhu in, “Peddlers,” an internal interaction was fermenting between the protagonist, Gao, and Zhu. The two had a very close relationship in the beginning of the story, but tensions quickly arose as seeing eye-to-eye would not be possible. Despite the wry demeanor of Zhu, it can be argued that the arguments between both characters suggest that Zhu cares deeply for Gao, and may even be attempting to show a new per-

spective to the cadre. Rather than letting feelings of contempt, such as the potential of Gao being the one who reported Zhu, he continues to remain upbeat to the best of his ability, perhaps to remain stoic for his family’s sake (Wenfu 204-205). What these relationships can teach the reader is that being kind and open-minded can be difficult when coupled with hard times, but is entirely possible, as we see through Amabelle.

During the last quarter of the book, managing about 30 years of Amabelle’s life, the reader finds closure at the final three chapters in FOB. She finds this in three distinct ways: by confronting Señora Valencia, by coming to terms with Sebastien’s death, and with finding peace within herself. All three of these situations involve both internal and external conflicts being resolved through perseverance, as can be seen with the interrogation in order to simply see Señora (Danticat 296). While it may be considered an easier idea to simply give up, she remains steadfast until the very last sentence of finding her own dawn (310). This process of reconciliation is not entirely supported, however, as author Nadège Clitandre writes for the *Journal of Haitian Studies* in the fall of 2001. In her article, titled, “Body and Voice as Sites of Oppression,” she believes that the symbolism of completion is an allusion to the suicide of Amabelle in her final riverbank scene, being unable to live in a world of so much trauma (Clitandre 46). In my own opinion, this concept would challenge the entire theme of Amabelle’s survival from water as a child, and reinforces her finding of peace: nothing in this world may break her any more (Danticat 143). Similarly to Amabelle being made whole, Zhu has a similar situation happen to him in, “Peddlers.”

With the limited information about Zhu, the only progression we see in his character comes from the relationship between Zhu and Gao, as well as his reaction to returning home. What is interesting about their relationship is that both parties attempt to reconcile, and both

have as much right to deny the other. This is seen through Gao saving one of Zhu's heirlooms, and with Zhu returning to discuss life with Gao (Wenfu 211). While both may have resented one another, both have shown personal growth in being able to have a cigarette and discuss with each other what their life plans are in a way more intimate than simple banter. Because of Zhu's overall attitude throughout the story, it seems that his attitude towards life may be more cavalier than most, seeing laughter, humor, and the performance of selling items as part of his own internal-processing. In a report written for Lesley University, Alison Landoni explores using role-playing and humor with patients for therapy in her article titled "A Laughing Matter." In her conclusion, she writes, "[in] understanding that [the patient's] perspective matters, they transform their world into a laughing matter" (Landoni 29). For Zhu, life may have seemed so backwards that all one

may do is laugh and try their best.

In conclusion, this cadre of characters provide evidence of both internal and external pressures against them, as well as practical solutions to persevere through life. As Westerners, the narrative is created to avoid pain, and to simply medicate until the pain is no longer relevant, but these beautiful stories provide a greater truth: the experiences of life, good or bad, create stronger, more empathetic people to make the world a grander place to live in. Even those the world rejects, such as FOB's Pwofese, seen as a madman to everyone but himself, continues to be a beacon of hope for Amabelle and myself in his blessed words, "Grass won't grow where I stand" (Danticat 284).. As the decade of the 2020's begins to reveal itself, there will be challenges for everyone, but characters and writers of the past have endured, and invite others not only to endure, but to thrive.

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The Obvious Secret About Honeybees

Brian Shifflett

Oftentimes, people will hear someone say this phrase: “I never knew that, but it’s kind of obvious and makes a lot sense now that I think about it”. This is not to say that someone lacks critical thought. It simply means someone is suffering from the age-old adage of “Can’t see the forest because of all the trees”. The information is there, but it is clouded by bits that are louder and more prominent common knowledge. In other instances, the topic is such a forgotten part of life that no one really gives it a second, or even third, thought to uncover those facts. Now let us focus on one tiny little topic that most likely has rarely crossed your mind unless you are at a dinner table or running away in fear. Honeybees lead a double life as purveyors of creation and potential harbingers of death.

Let us start with the basics of a honeybee’s life by building a mental picture. Imagine it is a warm spring/summer day; there is a meadow full of flowers and honeybees are buzzing all around collecting nectar from flowers and interacting with a substance we humans have a love/hate relationship with: pollen. Pollen is vital to the survival of over a quarter of a million plant species and has a variety of ways to spread, but humans tend to think of pollen in a narrow way; it floats in the air, covers our cars and wreaks havoc on our sinuses every spring. While true, that leaves out what it truly accomplishes. Pollen is the reproductive method of flora around the world. Wind can carry it – as we know all too well – and it can be transferred physically via insects. That simple, inadvertent act classifies those insects as pollinators. This is where the honeybees come in, but take it one step further. Honeybees called Workers collect

nectar from flowers as the singular ingredient for their food source: honey. As workers collect nectar by moving from flower to flower, they come into contact with the pollen in those flowers which sticks to their bodies. Some of the pollen will inevitably fall off and be left behind at each stop, which is where the pollination process occurs for those particular plants; this is a critical step in the ecosystem for plants that have pollen too heavy to be carried by the wind. The Workers then travel back to their hive to begin the process of converting the pollen into honey. The Workers arrive and pass off the nectar from a special sac on their bodies to Workers inside the hive. As it is passed from bee to bee, the PH level changes and it is eventually deposited into the honeycomb. Workers then begin the process of constantly fanning the honeycomb cells with their wings to dehydrate the nectar to the point of solidification that we know and love: honey.

Honeybees are big business. Products include honey, contracted pollination services, beeswax, and venom for medicine research to name a few; it all adds up to a roughly estimated \$339 million a year industry (“Honeybees” – FDA). Given this number, it should be no surprise that hobbyist beekeeping has seen a rise in recent years. The US Department of Agriculture counted an estimated 2.88 million bee colonies in the United States at the beginning of 2021, which is up eight percent from 2019 (Coen). Collecting all of that honey does not deprive the bees however. In Coen’s article, urban beekeeper Dan Fox of Louisiana has a single hive in his backyard, yet he manages to obtain over seventy Mason jars a year and still leaves enough behind for the bees to feed on

in order to survive the winter. Fox answers the question everyone wonders when a seemingly large amount of honey is taken from a hive: “They’re hoarders. They always need something to do. They’re making more honey than they can use.” (qtd. in Coen). With all of those honeybees around, mother nature should be extremely happy, right? Perhaps not.

We can all see the benefits of honeybees; after all, those are the proverbial trees. They are not without their problems however, so now we need to step back to see the entire forest and uncover a few “ah-ha” moments. Honeybees are not native to North America; managed honeybees have European origins dating back to the 1600s when they were first introduced (“Managed Honeybees”). There are now over 400 different species that have been identified in Minnesota alone. There is also a popular consensus that honeybee populations are in rapid decline and extinction would spell doom for a third of the crops generated in North America (“Helping Agriculture’s”). On the surface, this claim seems dire. What is driving it however? Nationwide there has been a conservationist effort to save honeybees from pesticides. One can imagine how much of the chemical honeybees would come into contact with during their nectar collection. While it is true that pesticides do cause harm to living creatures if exposed to them enough, some biologists like Dr. Sheila Colla at York University in Canada tend to disagree. She states, “People mistakenly think keeping honey bees, or helping honey bees, is somehow helping the native bees, which are at risk of extinction. The focus on neonics [a kind of pesticide] and honeybees has taken a ton of resources away from conserving wild pollinators from their most important threats” (qtd. in McAfee). So, what is Dr. Colla saying? Her stance is somewhat mixed, but in summary she believes that adding more hobbyist colonies is detrimental to the ecosystem and the cause. How could that be? More honeybees mean more pollination and the plants are hap-

py; but what about the other pollinators in the area?

High densities of honeybees that are introduced into areas will almost certainly increase competition with other nectar foragers in the flight zone of the hive. Honeybees are generalists, they do not visit specific flowers or plants. If there is nectar to be had, they harvest it. This explains the wide array of honey flavors. It takes on the general taste and smell of the plant the nectar originates from. Simply visit a farmer’s market or a specialty shop and flavor after flavor can be found; the flavors even change throughout the flowering seasons. Now imagine tens of thousands of honeybees in one area, all looking for food. An average colony consists of approximately thirty thousand honeybees. It doesn’t take long for a picture to emerge. Honeybees can essentially starve out native pollinators such as beetles, flies, ants, moths, wasps, and other insects that simply feed from the nectar and do not convert it to honey.

Honeybees can also negatively impact the reproduction cycle of plants, trees and flowers. A statement like this will naturally create confusion based on information given just a few paragraphs ago. Under most circumstances, there are minimal pollination impacts. However, a study performed in the Canary Islands off of the coast of Africa proved that there are indeed negative results to be had. Alfredo Valido and Pedro Jordano, researchers from the Spanish National Research Council in Tenerife and Sevilla, introduced hundreds of honeybee hives to one of the islands. Up until that point, the island only had native pollinators. The results were shocking. Valido stated, “By introducing tens or hundreds of beehives, the relative density of honey bees increases exponentially compared with wild native pollinators” (qtd. in McAfee). The introduction of large amounts of honeybees overpowered the natural pollinators around the hives, which in turn, caused a drastic reduction in flower resources and the

natural pollination cycle. While some plant species enjoyed higher fruit yields from the increased activity, fruits sampled nearest the hives contained only aborted seeds; a sure sign that the non-discriminate nature of the honeybees meant the correct types of pollen were not reaching their intended targets.

Honeybees are also subject to problems of their own, not just ones they create. There is the matter of a disease so specific, it only affects honeybees and no other creature on earth. Foulbrood Disease can partially or completely destroy a honeybee colony. It is a spore-producing bacterial infection that affects the larval and pupal stages of the unborn honeybees; adult bees seem to be unaffected. Unborn honeybees contract the disease from adults that are tending the cells by feeding them honey and other nutrients that contain the bacteria, and from there the overall health of the young begins to deteriorate to the point of death before they can emerge. If the disease does not destroy the hive, traditional means of eradication will. Since the honeycomb itself contains the bacteria, beekeepers often burn the entire hive. New research over the past twenty years, however, has produced two FDA approved antibiotics that seem to be very efficient at curing a Foulbrood outbreak. In 2017, the FDA modified the availability of these antibiotics due to concerns of misuse and the potential for a medicine not intended for human making it into a food supply. They are now only available through the assistance of a veterinarian (“Honeybees” – FDA).

What can one say about honeybees after finding out they are not simply the honey producing micro-chefs they were thought to be? The evidence thus far would make someone believe honeybees are nothing but a nuisance to their environment and have only one redeeming quality. It certainly seems as though they create their share of problems. Like most things in nature, where there is a problem, the answer is close by. While it’s true that hon-

eybees can cause interruptions to ecosystems where they are suddenly interjected, they can also be saviors. For example, Almond orchards in California are entirely dependent on honeybees for pollination; the density of the trees and the low concentration of natural pollinators means the trees would not be able to pollinate naturally. The man-made problem the farmers face is being solved with nature. The agricultural benefit of honeybees is roughly ten to twenty times greater than the total of beeswax and honey produced each year according to the FDA (“Honeybees” – FDA). Indeed, there are a multitude of uses for the products of a honeybee hive, and a financial boost for anyone willing to embrace the inevitable sting.

How does the entirety of this information influence someone’s opinion on our quest for passing judgement on the humble honeybee now that everything is out in the open? How do we categorize them; friend or foe? Their benefits have always been obvious, but now their faults and even their damaging presence is laid bare. In my opinion, we have a hung jury. Honeybees are invaluable to agriculture that sustains a large portion of the United States’ food supply, in addition to being a boon to a multitude of industries. They can also be a burden to ecosystems under the right set of circumstances. Just like any resource, care must be given to regulate numbers and use. It is truly amazing how a simple insect can bolster an economy and food production; but like any other resource, if used unwisely, they can collapse the system that depends on them. That is quite a lot of responsibility for such a tiny creature.

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Effects of Teacher Expectations on Student Academic Performance

Ezra Staengl

One important question that sociologists study is how children define their self-identity. According to Charles Cooley's "Theory of Looking Glass Self," children come to understand themselves by experiencing how others react to them (Giddens et al. 116). For instance, a child that believes they are particularly smart may answer more questions in class, in such a way that leads the child's classmates and teachers to perceive them as intelligent. The child's peers and teachers may then react to them in a way that either confirms or denies the child's original supposition, which may encourage or discourage the child from continued intellectual effort, and ultimately influence the child's actual intellectual ability. In this way, children learn about their place in the world through a complex web of interactions between their expectations and those of others. One form these expectations can take is the self-fulfilling prophecy, where through complex sociological factors, expectations of an individual can influence that individual's reality. This paper explores the effects of self-fulfilling prophecies in the classroom, and particularly the extent to which teachers' expectations of their students influence the students' academic outcomes.

In 1965, Rosenthal and Jacobson conducted a now classic experimental study to determine if teacher expectations affected student performance (72). The authors arbitrarily divided students at a public elementary school into two groups. They shared these groups with the school's teachers, telling them that the students' learning could be predicted based on

their previous test results through a fictitious Harvard Test of Inflected Acquisition. The teachers were told that one set of students was predicted to rapidly gain in intellectual ability, while the other set was predicted to gain more slowly. The primary purpose of the experiment was to measure what effects these artificial teacher expectations would have on student performance. Secondarily, if they found differences in student performances between the two groups, the authors were interested in the relative differences by age, sex, minority status, and previous academic achievement. Rosenthal and Jacobson found that students "predicted" to do better did in fact, do much better, especially among the younger grades (first and second) (74). The benefits of teachers' positive expectations were very similar for girls and boys (78). However, within the experimental group (the students for which teachers had artificial positive expectations), boys gained more in verbal IQ while girls gained more in reasoning IQ (78). Rosenthal and Jacobson suggest this discrepancy may be influenced by the fact that boys initially had higher verbal IQ, and girls higher reasoning IQ (78). In other words, it's possible that positive expectations were more beneficial in areas that the students already possessed greater proficiency in. The study found little difference in the effects of positive teacher expectation on performance among the groups based on previous academic achievement (78). However, the study did find that kids of minority group status, in this case Mexican, gained more from the positive teacher expectations than their non-minority peers (but the differ-

ence was not statistically significant) (82).

While Rosenthal and Jacobson's study provides strong support for the idea of self-fulfilling prophecies in the classroom, and that a teacher's expectations can have strong repercussions for their students, it has been criticized for making the teachers' expectations too artificial. Some argue that in a natural classroom setting a teacher would be less likely to develop such strongly inaccurate expectations for students, and that teachers' natural biases would be unlikely to have such large ramifications on student performance (Baker et al. 180). Fortunately, future studies did examine the effects of more "natural" teacher expectations on student academic performance.

Rubie-Davies investigated the differences in teacher habits of teachers with different expectations of students at the level of the entire class (289). Previous studies by the same author had identified teachers with either high or low expectations of achievement for their entire classes, by comparing the teachers' expectations with actual class performance (Rubie-Davies 291). This measure of teacher expectations is more "natural" than that used by Rosenthal and Jacobson because it wasn't manipulated by the experimenters. The selected teachers were then divided into three groups based on their expectations and the performance of their students. Low expectation teachers were the teachers whose students achieved better than they expected. The high expectation teachers were the teachers whose expectations were significantly above their students' achievement levels, and whose students made significant gains in reading achievement during the study. The third group consisted of teachers with relatively high expectations but whose students did not perform as well in reading achievement as those of the high expectation group (called the average progress group).

All the teachers in the study taught at primary schools in New Zealand. Each teacher was studied during two half-hour reading les-

sons at different times during the year. During each lesson, the researchers followed a protocol to record and code every statement and behavior the teacher made. The different broad categories were teaching/learning, feedback, questioning, behavior management, and procedural. Most of these categories were further broken down into more specific subcategories; for instance, each feedback statement was classified as either praise, criticism, or learning feedback. The researchers then analyzed how many times the teachers of each different group used each different type of statement or question, with some interesting results.

In general, the study found that the high expectation and average progress teachers employed relatively similar teaching styles, at least compared to the low expectation teachers (Rubie-Davies 300). High expectation and average progress teachers both made more teaching statements, more instructions, and explanations and asked more questions than did low expectation teachers (Rubie-Davies 300). However, high expectation and average progress teachers did differ in some key areas, which the author suggests could be the cause for the average progress students' relative lack of progress (Rubie-Davies 301). For instance, high expectation teachers gave more feedback to students, asked more complex open-ended questions, gave more positive behavior management statements, and praised students more frequently than either average progress or low expectation teachers (Rubie-Davies 301). The author summarizes the key differences between high expectation and average progress teachers as being that "the socioemotional environment created by high-expectation teachers was likely to be more positive and caring than that found in the classrooms of the other two teacher groups" (Rubie-Davies 303).

Rubie-Davies found strong evidence that teacher expectations for an entire class influence the ways in which the teacher interacts with the class, which could quite possibly in-

fluence student performance. The study also provides some evidence for the idea that high teacher expectations are good for student performance (the high expectation group greatly outperformed the low expectation group). However, because the average progress group also had high teacher expectations but did not significantly outperform the low expectation group, the study also suggests that other aspects of teaching style and classroom environment are at least equally important as teacher expectations to student reading achievement. Rubie-Davies found that teachers' expectations of students could not completely explain student performance. In contrast, Sorhagen found that teachers' expectations of students in first grade predicted student achievement all the way into high school (470).

Sorhagen examined the relationship between teacher expectations and student academic success over a long time period, from first grade to high school (465). The students involved in the study came from a very large sample, selected at birth from across the United States. The sample was later refined and ended up at 1,273 students. The students' ethnicities and family incomes were recorded. Teacher expectations were measured in first grade, by having the teachers rate the students in various academic areas, such as math, reading, and language. The inaccuracies of the teachers' expectations were then calculated by comparing the teachers' expectations to the students' actual academic performance in first grade. In this manner, the author's measured the extent to which teachers over or underestimated their students' abilities. The students' academic achievement was measured with the Woodcock-Johnson --- Revised Test of Achievement and the Woodcock-Johnson --- Revised Test of Cognitive Abilities, which were applied before first grade, during first grade, and in the students' first years of high school. Statistical analyses were done on the data, controlling for gender, ethnicity, family income, and pre first

grade test scores. The key result was that teacher over or under estimation of student ability in first grade predicted relative student ability in high school for all the academic areas tested (Sorhagen 470). Secondly, the study found that over or under estimation of student math and language abilities had a particularly pronounced effect on the later academic performances of students from poorer families (Sorhagen 471).

Sorhagen found that natural teacher expectations formed in first grade predict student performance all the way into high school, particularly for poorer children. Clearly then, teacher expectations do have a powerful influence on student performance. The final study examined here investigates whether students' expectations for their own academic success may also have an important role.

Rappaport & Rappaport examined the effects of artificially created positive expectations of both teachers and their students on reading achievement (531). The students were black, 5-6 years old, and participating in a compensatory education program. All the students had scored similarly (around a D) on the Metropolitan Reading Readiness Test prior to the beginning of the study. The experimenters randomly created five groups of students: three experimental groups and two control groups. Students from four of the five groups did a set of standardized tasks (from the Miniature Situation Tests) in front of the researchers for 30 minutes each, twice a week, for several months. Each experimental group was exposed to a slightly different experimental variable in how the researchers responded to them and their teachers about the students' completion of the tasks. In one variable group (teacher expectancy), the researchers told the teachers how well the students were doing the tasks and did their best to make the students' performances of the tasks seem generalizable to greater academic success. In the student expectancy group, the students were given as much positive feedback

as possible about their performance of the tasks and told they would do correspondingly well in school. In the teacher and student expectancy group, both the students and teachers were given the positive feedback. In one control group (interaction control) the students did the tasks without feedback. In the other control group (control) the students did not even do the tasks. The students took the Metropolitan Reading Readiness Test again after the study period ended to provide a measure of gains in reading achievement. All the experimental groups did much better on the reading test than did the control groups (Rappaport and Rappaport 534). Interestingly, the teacher and student expectancy group also did significantly better than the teacher expectancy group, which the researchers argued may show that student expectations are even more important than those of their teachers in determining student success (Rappaport and Rappaport 535). Regardless, the study found that student expectations were as important as those of the teachers and should not be ignored when discussing self-fulfilling prophecy effects in the classroom.

Following Rosenthal and Jacobson's study, subsequent research both affirmed and refined the idea that teacher expectations could

have powerful effects on student academic success. Rubie-Davies found that natural teacher expectations for an entire class impacted the teachers' behavior but could not entirely explain academic performance. In contrast, Sorhagen found that inaccurate teacher expectations in first grade impacted student performance all the way into high school. Rappaport and Rappaport also found that teacher expectations influenced student success, but they suggest that student expectations may be at least equally important. Apparently, both student and teacher expectations can and often do have important impacts on student academic performance, a finding that makes sense within Cooley's "Theory of Looking Glass Self." Students, particularly young ones, can create a self-fulfilling prophecy through their expectations of themselves. However, it seems teachers can "short circuit" the looking glass self model, and directly influence students' academic performance through their expectations, another form of self-fulfilling prophecy. As it is unrealistic for young children to keep in mind the power of their own expectations and prioritize learning, it is up to the teachers to emphasize positive expectations for their students.

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