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First Year Writing

Essays

Tragedies Build Bridges

Ethan Nelson

Category Winner *First Year Writing*

A traumatic experience like a natural disaster would probably scar the lives of many people, but for Xiao Yue, who goes by “Paul,” a 2008 earthquake in the Sichuan Autonomous Region of his home nation, China, did the opposite: it changed his outlook on life. After the disaster, he learned to enjoy living and simply being alive. Over three days, I was able to interview Yue and discuss his experiences growing up in China and adjusting to life in the United States, where Yue is a foreign exchange student attending Washburn University in Topeka, Kansas. My three-part interview began to feel less like an interview and more of a chance to look at and reflect where I have gone with my life once I started to relate many of Yue’s stories to my own life. This new direction I had in viewing the interview project began when Yue mentioned the devastating event that struck when he was just nine years old.

I first met Yue, a bespectacled nineteen-year-old student of Han Chinese descent with jet black hair, on October 1, which, Yue remarked to me, was coincidentally the same date as the start of a Chinese national holiday, National Day, and the start of the Golden Week national celebrations. We interviewed each other inside Washburn University’s International House, an ornate building with South-

western mesa architectural styling. Yue and I began an almost-instant rapport about our lives, especially our experiences at Washburn. His sense of humor struck me immediately as did his soft-spoken voice and easygoing nature. I was heartened to hear that we shared a common annoyance of college students who prioritize partying and spending too much time socializing over studying and completing homework. Yue also told me several eye-opening facts about China, including a demonstration of the severity of media censorship there; he pointed at several news app icons on his phone (such as the *Washington Post*, BBC News, and the *New York Times*), and repeated “these are not allowed in China” as his finger passed over each icon. We discussed politics, with Yue saying he had “respect” for American president Donald Trump, but Yue also added, “To be honest, the Chinese see the U.S. as a potential enemy.” Coming to the United States, Yue found Americans to be “honest” and “more interesting” than Chinese people, who he explained are typically more reserved. On our second day of interviewing, Yue also said he appreciated American freedoms and democracy and added, “I like how here you have the government separated from the justice system.” However, Yue believes plutocrats have too much power in the United States and that the system of separation of powers has “low efficiency” compared to China’s heavily centralized bureaucracy. It surprised me to hear someone who had been in America for only a year have such an awareness of political and social issues. In addition, it was fascinating to hear an outsider’s opinion about a nation I had grown up in all my life and had often taken for granted.

Yue himself reflects China’s political values in the past several decades; he has no siblings because of the 1979-2015 One Child Policy, and his studying abroad is part of a broad push by China to get its students into foreign universities. He also revealed that Washburn was not the first college he had attended; for a year he had gone to a university in southeastern China. The university is a far cry from the ones in the United States in terms of rules. “Students living in the dormitories could not use more than 300 Watts for electronic devices,” Yue recalls, and there was a strictly enforced 11:00 p.m. curfew. However, this university was apparently not as disciplinarian as another institution, Heng Shui Middle School, that Yue gave the terrifying moniker of “the second jail.” According to Yue, students attending Heng Shui read course materials while they are eating in dining halls and as they

run around a track. As our interview progressed, I wondered if I was going to be able to find something Yue would say that would finally bridge the remaining cultural gap between us. Fortunately, when I asked Yue if he had any stories from his childhood, he had just the answer as he took out a piece of scrap paper and his ballpoint pen.

“In this year,” Paul said, scribbling “2008” on the paper and showing it to me, “there was an earthquake.” It was no ordinary temblor, though. Measuring a staggering 8.0 on the Richter Scale, the quake devastated China’s Sichuan Autonomous Region, leaving 87,000 people dead or missing. “One county became flat,” Yue added before showing me pictures of the devastation wrought by the earthquake: apartment complexes ripped in half, torn-up roads splaying concrete slabs into the air, tangles of telephone wires wrapped around each other. At the time, Yue was living in nearby Ningxia Autonomous Region near Mongolia. The earthquake struck at around 2:28 p.m. local time when nine-year-old Yue had just gotten up out of bed. Rudely awakened by the ground shaking underneath his feet, Yue decided to “just lie in the bed” and wait out the earthquake.

Two hours later, Yue learned from state news media about the disaster that had befallen Sichuan Province. In reaction to the news, Yue says, “my mother cried.” The quake “impacted every Chinese heart,” Yue said, and an outpouring of sympathy and relief came from Chinese civilians—including Yue himself. Admitting that “I had no clear concept of disasters before” the Sichuan quake, Yue made an important decision. He donated twenty renminbi (about three U.S. dollars) to the ongoing disaster relief efforts. In addition, Yue began seeing the world differently. “Enjoy the present,” Yue says as he reflects on the hard lessons the 2008 quake taught him. “Cherish your current life.”

As Yue spoke about how this natural disaster affected his thinking, I could not help but going back in my mind to a similar incident in my life, though it was far less dramatic than an earthquake. My grandmother Theda was hospitalized for over a month when I was fourteen and left me questioning my purpose here on Earth. In October 2014, my grandmother, then seventy-nine, had to go to the hospital for an extensive hip surgery that left her so weakened she had to stay in a health rehabilitation center into November. By the time she was out of rehab, she had lost much of her short-term memory as dementia began to take hold of her mind. Throughout my grandmother’s time

in the hospital, I, like Paul Yue, began to take less of my world for granted and recognized my own mortality for the first time. The lessons I learned were that pain and death had to be accepted to live, values very similar to the idea of “cherishing life” in the present day that Yue found after the devastation of the 2008 earthquake.

If I hadn’t had the opportunity to interview Paul Yue, I know now that I would not be able to know more about my own life. During the three meetings Yue and I had on October 1, 3, and 5, 2018, at Washburn University, I was able to gain insight into Yue’s childhood and young adulthood—everything from what American food he enjoyed to his thoughts on the U.S.-China trade war grabbing the business headlines of the Mabee Library TVs. However, I also learned something we had in common when Yue spoke about the devastating Sichuan earthquake of May 2008. I realized we shared a worrisome event in our past that had forever altered our view on life. For Yue, it was a magnitude 8.0 earthquake; for me, it was my grandma’s months-long recovery from surgery. While these two incidents occurred six years apart and thousands of miles away from each other, I was still able to relate to what Yue was saying in a way I had not been able to do before in the interview. Now I was no longer interviewing Paul Yue but rather talking to him as a person who had gone through the same thing I had, and we could talk about how we have both changed as humans in the aftermath of tragedy.

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Better Than I Deserve

Gordon Smith

I believe that I am absolutely blessed to be here. The path I traveled to get here was dark, dishonest, and destructive. I lived my life defying everything I was raised to believe in. I was brought up in a Christian household and we attended church every Sunday without question. I knew right from wrong before I was able to leave the front yard; I consciously decided I was going to do whatever I wanted right or wrong.

I associated alcohol with fun early in life and carried that with me until I was forced to let it go. I have had serious legal issues throughout my life and addiction and alcoholism played a large role in my felonious activity. My list of offenses extends from drug activity to robbery and I have served my fair share of time in prison. I only list what I did to show how far I strayed from my childhood teachings.

As bad as all that sounds, I turned out better than most would expect. During my time in prison I read a lot of books. I found solace in the stories of my favorite authors and prison was a comfortable place for me. I practiced getting back into my Bible through doing daily devotionals my Grandmother would send me. I spent a large portion of time on physical fitness and finding ways to improve upon myself. I came across a program that worked with inmates fight

drug-addiction; I filled out the application for it and was selected to participate in the program two years later.

I believe that I am here for a reason. Many have done prison time and have not been so fortunate as I was in the growth I achieved there. Addiction has taken the lives of millions, and yet I still have an opportunity to share where I have been with others. People who live in the streets the way that I did do not die of old age. I believe that I had to experience all these things in my life to be a living, breathing example of change.

When people ask me how I am doing, I will sometimes answer “Better than I deserve.” I have this day to be grateful for; my actions should have earned me an early grave. My struggle with addiction and alcoholism has led me to pursue a degree in human services, specializing in addiction; I plan to work with others like myself in the future and hopefully guide them to the path that has been laid before me in this beautiful life of recovery.

Diversity is important to my experience at Washburn because it will help me to learn more about me through the experience and knowledge of others. What I have learned from this assignment came from listening to the essays that were assigned. I listened to more than just the ones listed because my curiosity had to be sated. What I heard were stories from all walks of life with experiences in how to be better people. I learned that we all have to travel our own path which makes our lives unique, and the passing of what we gain through our experiences good or bad can change the potential outcomes for others in similar situations.

Pond Trail

Kyra Miller



The Power of Hope

Whit Downing

I remember the very first time that I thought about ending my own life. It was a quiet afternoon and I had just gotten home from another grueling day of high school. The year was 2012—I was 16 years old. A mere child. It was there in that very moment as I sat on the floor in the corner of my room that I felt hopeless. Hopeless.

The feelings of hopelessness had created a false reality for me. I believed the lie that everyone in my family would be better off without me. I believed the lies that I was a burden and that no matter what, things would never change. I believed the lie that the confusion, abandonment, and the trauma that I was enduring was all my fault. Believing these lies created a darkness in my world. It was as if I were in a tunnel, except there was no light at the end. A never-ending road of darkness.

I want to change gears a bit and talk about what I have learned about hopelessness, and furthermore, what I have learned about hope. Now as a 22-year-old, I don't believe those lies that once held me captive inside my own brain. I believe in a better tomorrow. I believe the TRUTH now. And that truth that I believe is that hope helps heal. That is such a profound statement with great weight to it. It has shaped my life in more ways than one.

As a suicide attempt survivor, along with my 11 stays in the mental hospital, I understand how dark life can get. When I think about the past, it is as if my emotions were played by a remote, except I had no control. Let me rephrase that. I *thought* that I had no control. There is one particular stay in the mental hospital that really had a huge impact on my life. After being extremely upset, I was finally calm enough to listen to the people who were trying to reach me. To the people who cared.

One staff member there sat me down and said “Look Whit, it is okay to be sad. We can’t always control how we feel - but you can always control what you believe deep down, and how you respond.” I listened. I took those words in, and they have impacted my life tremendously.

Those words gave me hope. A hope that has kept me alive since.

The hope that I have has helped me heal. It has helped me heal from the trauma I endured as a child. Hope has helped me heal from the abandonment that took place in my life. When my world gets dark, hope, even just a tiny bit of it, keeps me going. Hope is a light. And where there is even just a smidge of light, the darkness leaves.

Not everyone believes the way I do, nor should they have to. That is what makes life fun, interesting, and beautiful. We are all unique, have had our own individual obstacles to overcome, and therefore, have our own beliefs. I want to get to know the other students at Washburn. Understanding and accepting diversity throughout my college and entire life experience is something that I will never lose sight of.

This assignment made me think long and hard about my beliefs. There are so many things that I believe have shaped my life. I chose the belief that hope helps heal because it is singlehandedly the belief that keeps me alive. Hope, no matter what the form of it is, no matter where I am getting it from each day and night, helps me heal.

Arts and Humanities

Essays

A Defense of the Unethical Status of Deceptive Placebo Use in Research

Gabrielle Kentch

Category Winner *Arts and Humanities*

Since the late 18th century, physicians and researchers alike have marveled at the phenomenon of the placebo effect. Originating from the Latin “I shall please,” placebos were unknowingly prescribed for centuries in place of true therapies (Lasagna, 1986). However, as medical research and technology progressed, the term “placebo” has come to be understood as untrue remedies causing a true response in the minds and bodies of ailed individuals. This response eventually being coined “the placebo effect.” The placebo effect can formally be defined as “positive physiological or psychological changes associated with the use of inert medications, sham procedures, or therapeutic symbols within a healthcare encounter” (Kleinman, Guess, & Wilentz, 2002).

Although evidence of the placebo effect has been documented for many years, only in recent years has there been a vigorous and widespread attempt to explain it and identify its underlying mechanisms. Along with the increase of systematic study, has come a wave of commentaries and criticisms regarding the ethical status of the use of placebos, both by physicians and researchers. For example, one common criticism supported by Michels and Rothman (2003) is that the use of placebos is unethical if there is already an effective treatment available

against which the treatment under investigation could be compared. They cite the fifth revision to the Declaration of Helsinki, a widely accepted code for medical research, which states, "The benefits, risks, burdens and effectiveness of a new method should be tested against those of the best current prophylactic, diagnostic, and therapeutic method. This does not exclude the use of placebo, or no treatment, in studies where no proven prophylactic, diagnostic or therapeutic method exists" (World Medical Association, 2000). Although the ethical status of the use of placebos has been debated both within the context of medical treatments and research, for the sake of brevity and specificity, only the use of placebos in research will be examined within this paper, with an emphasis on placebo use in psychological research.

In this paper, I shall argue that the use of deceptive placebos in research is generally unethical for three primary reasons; it infringes on participant autonomy, it corrodes trust between the researcher and the participant, and it allows for the risk of psychological harm to come to the participant. I will defend this thesis by first explaining why deception is often seen as a necessity to elicit the placebo effect. Then, I will explain how this deception infringes on participant autonomy, corrodes trust, and allows for the risk of harm, through logical argumentation and empirical evidence. I will then offer two alternatives to traditional deceptive placebos and argue for their validity and ethical acceptability. Finally, I will summarize Onora O'Neill's opposing position in her paper "Paternalism and Partial Autonomy" and identify the strengths and weakness of her argument. O'Neill's position is one deserving of special consideration because through it, she addresses the first and strongest reason presented within this paper. She upholds the value of participant autonomy but argues that deceptive placebo use is ultimately compatible with informed consent.

Researchers attempting to explain the placebo effect have concluded that a primary underlying mechanism is that of "response expectancies," or the participant's expectations of amelioration (e.g. Vase, Robinson, Verne, & Price, 2003; de la Fuente-Fernández, Schulzer, & Stoessl, 2004). This has led to the traditional use of placebos involving deception of the research participants by manipulating their expectations to control for the placebo effect. A participant's expectations may be altered through direct deception (e.g. the participant is told that they are receiving an effective treatment, when they are

truly receiving a sugar pill) or through omission of information (e.g. the participant is not told what they are receiving nor informed that deception may be used in the study, thus, the expectation of receiving an effective treatment is assumed), the latter commonly viewed as more ethically acceptable than the former. Regardless of the degree or method of deception, deceiving the participant by manipulating their expectations is considered a necessary evil to confirm the existence of a true effect of a treatment, independent of the participant's expectation of its effects.

Despite the common conception of deception in research being *prima facie* wrong, deceptive placebo use is most commonly justified by the guideline 8.07 of The American Psychological Association's guidelines. The guideline states that deception may be used only in the case that it is "justified by the study's significant prospective scientific, educational, or applied value and that effective non-deceptive alternative procedures are not feasible" (American Psychological Association, 2002). It outlines the typical utilitarian argument which proposes the moral good of the knowledge gained from subjecting a group of participants to deception outweighs the moral wrong of the deception. It is assumed that generalizable knowledge will be obtained from the study which will benefit a much greater number of people than the number who are potentially harmed within the study (Michels & Rothman, 2003). Setting aside the possibility of non-deceptive alternatives, which will be discussed later, I will argue that this prospective value, granting its existence, is heavily undercut by the harms which are inflicted upon the participants through deception, most notably, through the infringement on the participants' autonomy.

Although I recognize there is debate around what constitutes a harm, I define "harm" according to the counterfactual comparison account. This account holds: "a person suffers harm if and only there occurs some event e such that he would have been better off had e not occurred" (Hanser, 2008). This infers that a participant is considered harmed if she would have been better off had she not been deceived. It is assumed that a participant undergoing an event in which her autonomy is preserved can be considered better off than had she undergone an event in which her autonomy had not been preserved. I believe most would find this to be a safe assumption.

The first reason and most compelling reason the use of deceptive placebos in research is generally unethical is that it infringes on participant autonomy. The logical argumentation for this claim is as follows:

1. Failure to disclose relevant information to the participant via the informed consent statement violates the participant's autonomy.
2. The use of deceptive placebos is a failure to disclose relevant information to the participant via the informed consent statement.
3. Therefore, the use of deceptive placebos violates participant autonomy.

Premise one is supported primarily by the fact that whenever researchers fail to inform (prospective) participants of relevant information within the informed consent statement, they are removing the participant's ability to choose whether to participate based on that information. The aim of the informed consent statement is to respect persons by preserving their autonomy. Failing to fully inform the participant of relevant information robs them of their ability to provide informed consent, thus violating their autonomy.

Premise two is justified by the self-evident fact that people most often do not wish to be deceived. It is probable, then, that an individual may choose not to participate in a study due to the study involving deception. Anything that could potentially, and most certainly something which would probably, divert an individual from participating in a study seems to qualify as relevant information. Thus, deceptive placebo use is a part of the relevant information which ought to be disclosed in the informed consent statement. This concept was rightfully included in the original 1992 APA ethical guidelines but was for some reason removed and replaced in the current 2002 version. This guideline summarizes perfectly the defense of premise two: "Psychologists never deceive research participants about significant aspects that would affect their willingness to participate, such as physical risks, discomfort, or unpleasant emotional experiences" (American Psychological Association, 1992). Even if the use of deceptive placebos did not amount to a physical risk, discomfort, or unpleasant emotional experience, which it most certainly could, it would still qualify as a significant aspect that would affect a participant's willingness to participate.

The second reason the use of deceptive placebos in research is generally unethical is that it corrodes trust between the researcher and the participant. Although it could be argued that trust remains an integral part of the relationship between researcher and participant

regardless of context, this is particularly evident in clinical research. As Miller, Wendler, and Swartzman (2005) indicate, the majority of participants in deceptive psychological research are psychology undergraduate students. These students are often made previously aware, through study of past research, that deception is used occasionally in psychological research, and thus are less susceptible to the negative effects often experienced by participants after deception is revealed. In contrast, a participant in a clinical setting possesses far more trust in the researcher, who also may be their physician or may have had a physician-patient relationship with them in the past, so the feeling of betrayal upon exposure is magnified. This is due to what Appelbaum, Roth, and Lidz (1982) termed the “therapeutic misconception.” This is the assumption held by participants, particularly in therapeutic research, that the “research, like the therapy they have received previously, is designed and will be executed in a manner of direct benefit to them” (Appelbaum, Roth, & Lidz, 1982). When this expectation is not upheld, either through failure of clear communication or deception, trust is naturally corroded leading to the potential obstruction to future medical care (Miller, Wendler, & Swartzman, 2005).

Another concern regarding an increasing lack of trust between researcher and participants is participants becoming less inclined to participate in future research. If a participant in a clinical study is deceived unknowingly, through the use of a placebo, and has a negative response when the deception is revealed, this could diminish their willingness to participate in future studies and consequently, impede future research endeavors. However, the evidence for this concern rests largely upon principled arguments, as there is a considerable lack of empirical studies conducted on the effects of deception, particularly through placebo use, on future research participation (Boynnton, Portnoy, & Johnson, 2013). Regardless of whether deception impacts future research endeavors, the corroding of trust between the participant-researcher relationship potentially harms both the participant and the field of research as a whole. This brings me to my third and final reason why the use of deceptive placebos in research is generally unethical.

The third reason the use of deceptive placebos in research is generally unethical is that it allows for the risk of psychological harm to come to the participant. Fleming, Bruno, Barry, and Fost (1989) conducted a study in which they disguised the true purpose of the study,

collecting data on alcohol abuse, by adding other questions relating to health within the survey the participants completed. After exposing the deception in the debriefing process, they asked whether the participants were upset, and if so, would they still be willing to participate in such research again? They found that one third of the participants reported being upset by the deception, however, two thirds of those reported that they would be willing to participate in such research again, despite being upset by the deception.

The investigators used that final result as a justification for deceptive research. However, this does not negate the fact that a third of the participants were psychologically harmed by the study, a ninth of participants harmed so much so that they were unwilling to participate in any future research. This risk of psychological harm is virtually guaranteed to inflict a portion of participants and has the potential to inflict most or even all of them. In APA guideline 8.02 it states that “reasonably foreseeable factors that may be expected to influence their willingness to participate such as potential risks, discomfort, or adverse effects” must be included in the informed consent statement (American Psychological Association, 2002). In other words, it is time that we treat the risks presented by the used of deception as we would all other risks involved in research participation: by including them in the informed consent statement.

The first non-deceptive alternative to deceptive placebo use is known as “authorized deception” or “second-order consent” (Wendler, 1996). Similar to the medical concept of “offering truth,” in which the physician employs techniques to reveal how much a patient would like to know of the truth of their condition, this method requires that participants be informed of the use or potential use of deception within the informed consent statement, prior to their participation. This can be accomplished simply by including the phrase “some of the information given may be inaccurate” or “you should be aware that, in order to complete this study, several of its details cannot be accurately described to you” (Wendler, 1996). Including statements such as these within the informed consent statement allows the participant to be fully informed that deception either will or may be used, while not describing the exact nature of the deception. It should also be included that the participants are free to withdraw from the study at any time, and that the deception or misinformation will be revealed to them as early as possible. This is in accordance with the third

condition of deception within the APA guideline 8.07, “(c) psychologists explain any deception that is an integral feature of the design and conduct of an experiment to participants as early as is feasible” (American Psychological Association, 2002).

To determine whether authorized deception is equally as effective as traditional deceptive placebos requires further study. However, there have been some promising results. Martin and Katz (2010) sought to investigate the authorized deception methodology in experimentally induced placebo analgesia. They found that the authorized deception method did not have any negative impact on the magnitude of the placebo effect, recruitment, and retention of participants, nor did it result in any psychological harm (Martin & Katz, 2010).

The second non-deceptive alternative to deceptive placebo use is known as “open-label placebos.” In this paradoxical method, participants are explicitly told that they will receive a placebo instead of a true therapy. Despite the seemingly direct contradiction between open-label placebos and response expectancies, there is evidence that open-label placebos are effective (e.g. (Kaptchuk et al., 2010; Carvalho et al.; Kelley, Kaptchuk, Cusin, Lipkin, & Fava, 2012). This evidence counters the common conception among researchers that deception is necessary to elicit the placebo effect. A possible explanation for these findings is that response expectancy is not the only mechanism by which the placebo effect is produced. Researchers hypothesize that another key underlying mechanism is conditioning or “pharmacological memory.” According to this hypothesis, open-label placebos work because they retrieve a pharmacological memory which serves as a conditioned stimulus that elicits previously learned responses. (Colloca & Miller, 2011).

Similar to the non-deceptive alternative of authorized authority, whether open-label placebos are equally as effective as traditional deceptive placebos, requires further study. Thus, both of these non-deceptive alternatives ought to be studied in depth and, if confirmed to be effective, utilized in place of deceptive placebos. If it is the case that both research endeavors prove fruitless, deception should only be used under the three conditions outlined in the APA guidelines and even then, non-deceptive methods should always be sought out in their place. This is why I included the word “generally” to my thesis. Should these non-deceptive alternatives be discredited, deceptive

exceptions will have to remain to control for the placebo effect, particularly when no effective treatment is currently available.

Despite the evidence outlined thus far for the use of deceptive placebos in research being generally unethical, there are, of course, several great thinkers who disagree with this thesis. Since I believe the first reason, that of deceptive placebo use violating participant autonomy, to be the strongest defense of the thesis, I will recount and examine the views of Onora O'Neill in her 1984 paper "Paternalism and Partial Autonomy." It is important to note that O'Neill's objection concerns physicians prescribing deceptive placebos to patients. However, I believe the argument can carry over fairly well into the current subject, researchers using deceptive placebos on participants.

O'Neill takes issue with premise two of the syllogism provided previously in defense of the use of deceptive placebos infringing upon participant autonomy. Recall: this premise states that "the use of deceptive placebos is a failure to disclose relevant information to the participant via the informed consent statement." O'Neill argues that humans, in reality, have limited autonomy. It is not possible, nor should be expected, for people to consent to every aspect of treatment. It follows, then, that only the fundamental aspects of a treatment ought to be disclosed to the patient in order to respect their autonomy and satisfy informed consent. Thus, the use of deceptive placebos does not infringe on participant autonomy since the deception does not concern a fundamental aspect of treatment. In other words, O'Neill does not believe the use of deceptive placebos to qualify as relevant or "fundamental" information regarding the study. O'Neill states, "In human contexts...Respect for autonomy requires that consent be possible to *fundamental* aspects of actions and proposals but, allows that consent to trivial and ancillary aspects of action and proposals may be absent or impossible" (O'Neill, 1984).

So how can deceptive placebo use be considered a "trivial" or "ancillary" aspect of treatment? Anne Barnhill develops O'Neill's argument more fully in her paper "What it takes to defend deceptive placebo use." Barnhill elaborates that a patient is often told of what a given medicine or treatment is supposed to do, what risks are involved, and what benefits are to be expected. However, rarely are patients told of the exact nature of the mechanism by which the treatment produces its benefits (Barnhill, 2011). Since there is substan-

tial evidence supporting the universal existence of the placebo effect, researchers can tell the participants what benefits are to be expected of the placebo, without telling them the mechanism by which those benefits are brought about (the placebo effect).

O'Neill seems to be appealing to the practical application of informed consent. She warns against idealizing the patient's autonomy and assuming that the patient possesses unlimited autonomy, for all human autonomy is limited in some capacity. Physicians may not regularly disclose, nor be obligated to disclose, the exact nature of the mechanism by which the treatment operates. However, I believe it is a common assumption amongst patients, and recipients of medical treatments, that the mechanism of the treatment is primarily physical, that is, truly altering the physical condition of the body. It is not assumed that the mechanism of the treatment is a psychological one, dependent primarily on factors of the mind, rather than directly altering the physical body. Failing to disclose the use of a placebo seems to be of greater significance due to this assumption being held by the patient.

In addition, it can also be argued that the use of a placebo is in fact a fundamental aspect of a treatment. Barnhill points out that whether the use of a placebo is a fundamental aspect of a treatment, largely depends on the views of the patient. To determine what ought to be disclosed requires knowledge of what the patient would wish to be informed about, what she finds relevant, and what aspects would influence her decision. This can be very difficult to decipher for the "average person." However, given people's general attitudes about deception and the aforementioned assumption they likely hold, it cannot be safely assumed that the average person would view the use of placebos as non-fundamental to the treatment. In the words of Barnhill, "physicians will need to know specific patients' attitudes toward placebos in order to justifiably give them undisclosed placebos." It appears these cases would be very rare indeed.

In conclusion, the use of deceptive placebos in research is generally unethical for three primary reasons; it infringes on participant autonomy, it corrodes trust between the researcher and the participant, and it allows for the risk of psychological harm to come to the participant. We have seen that the primary justification for deception in research is diminished when the costs of the deception are considered. Due to these costs, the non-deceptive alternatives of authorized deception

and open-label placebos should be utilized. Finally, we have seen that even though there are legitimate objections to the use of placebos being disclosed through informed consent, these objections are only justified in very narrow, subjective situations. The ethical status of the use of deceptive placebos ought to be seriously considered by all researchers, so that one day, the norm of placebo use may be non-deceptive, and the autonomy of all participants preserved.

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Personality and Prejudice: Defining the MBTI types in Jane Austen's novels

Madysen Mooradian

The characters in the novels of Jane Austen exhibit a diverse range of personality, from mysterious and stoic to flippant and sensible. The field of psychology explores these personality differences and questions why people behave the way they do. Mother daughter team Katharine Cook Briggs and Isabel Briggs Myers constructed a psychological questionnaire that categorizes people by how they perceive the world and make decisions. The duo observed sixteen different personalities based on four psychological functions: sensation, intuition, feeling, and thinking, and which traits are dominant for a person. This typology system exhibits the strengths and weaknesses that each of the types holds. Throughout the various novels of Jane Austen, the sixteen Myers Briggs Type Indicator (MBTI) personalities display themselves in her characters, making them true to life and relatable.

The sixteen MBTI types become abbreviated by most studies for convenience and consist of four letters. The initial letters represent each of the four types, with the exception of intuition, which becomes "N" to avoid confusion from introversion. People focus their attention either outer, Extraversion (E), or inwards, Introversion (I). The reception of information can be basic and straightforward, Sensing (S) or

meaning and interpretation can be added to it, resulting in Intuition (N). Thinking (T) makes decision based on logic, or emotions, Feeling (F). People deal with the world by making a plan and deciding to stay true to the decision, Judging (J) or staying open to new options, Perceiving (P). None of the types rank better or worse than the others, but all hold different values. Assuredly, the characters of Austen live in the world of fiction and do not contain the complexity of real life, so descriptions may be seen as surface level. However, Austen captures the aspects of the personality types in various ways in her characters.

Elizabeth Bennet from *Pride and Prejudice* may be the most well-known character that Jane Austen crafted in all her novels. Independent and stubborn, Elizabeth, known as Lizzy to her family, says what she pleases. The Myers Briggs category best suited for Elizabeth is ENFP. Her extroversion feeds off of other people, and her wit shines through in conversation and at parties. She trusts her intuitions, even when they lead her astray, as with Mr. Darcy and Mr. Wickham. Elizabeth's feelings rule her decisions in many situations. When Lady Catherine confronts Elizabeth about her romance with Mr. Darcy, Lizzy becomes obstinate and refuses to answer Lady Catherine. "I cannot tell; but you have certainly no right to concern yourself in mine. I must beg, therefore, to be importuned no farther on the subject" (Austen 388). The same stubbornness presents itself when she made up her mind about Mr. Darcy's prideful behavior. Later, her perceiving type shows itself when she refuses to accept Mr. Collins proposal. Although he might be her only option for marriage, she feels like they would be a bad match. Elizabeth would rather keep herself open for the chance at love than be married to a man she could not stand. Elizabeth delights in life and stands firm in her resolutions, yet still remains loyal to those who she loves.

Mary Crawford from *Mansfield Park* portrays the next personality trait, ENTP. Mary, charming and sociable, personifies a true extrovert. She trusts her intuition as she falls in love with Edmund, but her logic overpowers her feelings. She wants to change Edmund's future career choice as a clergy member and would rather he be rich than content with a modest lifestyle. "I would have everybody marry if they can do it properly: I do not like to have people throw themselves away; but everybody should marry as soon as they can do it to advantage" (430). The "T" part of Mary's typology results in a cunning and analytical view of the world.

Two individuals portray the ENFJ well: Emma Woodhouse and Frank Churchill, both from the novel *Emma*. Emma and Frank exhibit extremely people-oriented behavior and thrive in social settings. Emma relies heavily on how people see her as she makes decisions but tries her best to be virtuous. Frank shows himself to be the opposite of Emma in this sense, and although he gives lavish gifts and charms people, he acts more devious and completes these actions to benefit himself. Frank's judging personality, shown by his flirtation with Emma to cover up his secret engagement, places his engagement to Jane Fairfax in a rocky situation. The judgement of Emma occurs when she sticks to the single-minded task of setting up her friend, Harriet. This attitude causes relationship drama for Emma and those around her.

Mr. Wickham from *Pride and Prejudice* best displays the ENTJ trait. He acts extremely extroverted and easily makes friends with the Bennet sisters. Mr. Bennet even says "He is as fine a fellow...as ever I saw. He simpers, and smirks, and makes love to us all. I am prodigiously proud of him," (373) despite all the trouble he caused for the family. Mr. Wickham bases his life on strategies, and this leads him to make immoral decisions. He seduces Mr. Darcy's sister for the sole reason of her inheritance in the hopes of gaining financial and social status. His flirting with Elizabeth Bennet boils down to a simple tactic for intellectual stimulation and pleasure. In the end of the novel, Mr. Darcy forces Mr. Wickham to take responsibility for his manipulation and marry Lydia, whom he only flirted with for fun. Although portrayed in a negative light in Mr. Wickham, ENTJs do not have to adhere to a villainous role in reality.

The ESFJ personality, outgoing and personable, displays itself in Mr. Bingley from *Pride and Prejudice*. "Bingley was sure of being liked wherever he appeared" (208). He seeks out friendship with his new acquaintances, the Bennets, and ever the people pleaser, throws a ball for them. He relies on his feelings in decision making but also trusts the opinions of his friends and family over his own. Swayed easily by the judgement of others, Mr. Bingley shows the combination of F and S well. He welcomes Jane Bennet into his home after she arrives sick on his doorstep and shows the best of manners to Elizabeth when she comes to visit. However, he listens to his sister and Mr. Darcy when they tell him that Jane is not a suitable romantic match for him and abandons her. Because they have been right in past situations,

Mr. Bingley looks to his friends for decision making. However, his feelings eventually win and Mr. Bingley returns to Jane to propose.

Only one trait different from her brother, Caroline Bingley exhibits the ESTJ personality type. Caroline likes to spend time with people but remains particular about whom she interacts with. She sees Elizabeth as competition for Mr. Darcy's affections, and treats her as such. "Miss Bingley saw, or suspected enough to be jealous; and her great anxiety for the recovery of her dear friend Jane, received some assistance from her desire of getting rid of Elizabeth" (227). Her sensing trait helps her keep her eyes on one goal, which is to marry up, in terms of both finances and in social class. Caroline sets her eyes on Mr. Darcy and her thinking trait dictates her conversations and interactions with him. She does not let her feelings influence her, as she shows almost no emotion over the course of *Pride and Prejudice*.

The best candidate for the trait type ESTP can be found in *Sense and Sensibility*. Mr. John Willoughby sweeps Marianne Dashwood off of her feet as he rescues her from an unfortunate injury, and soon has the Dashwood family falling in love with him. "His manly beauty and more than common gracefulness were instantly the theme of general admiration" (24). His thinking nature plays out as he strings Marianne along, reaping the benefits of love, but not saying how he actually feels. Because of his practical and analytical side, Mr. Willoughby realizes it is in his best interest to end things with Marianne and pursue a woman with a better financial status. He remains open to options about his future, but in the end, decides that being with someone who can afford his taste for the finer things in life offers more value than love.

The last extroverted type, ESFP, can be seen best exemplified in Marianne Dashwood from *Sense and Sensibility*. Bubbly and outgoing, Marianne relishes in other people's attention. The trait "S" lies in the fact that there is hardly any second guessing when it comes to decision making. When Marianne sees something, she likes it or she does not. If she does like something or someone, she puts all of her energy and efforts into them. Marianne, described as sensible, perfectly personifies the feeling trait. "She was sensible and clever; but eager in every thing; her sorrows, her joys, could have no moderation. she was generous, amiable, interesting: she was everything but prudent" (5). The pleasure of her high moments of love and happiness are equally balanced by her low times of depression and hysteria when she feels

wronged.

The introverted type does not necessarily mean that a person is withdrawn and antisocial, but rather, that they gather energy from being alone. Mr. Knightley from *Emma* portrays the trait ISTJ well. He remains aware of how the world around him functions even though he notices small details in his friends. His logic and rationality balance out Emma's idealized sense of romance. When she encourages her friend Harriet to turn down a proposal, Mr. Knightley confronts Emma and explains things in a way she can understand. He knows when to chide her gently and when she needs to be treated with a firmer response. "This is not pleasant to you, Emma—and it is very far from pleasant to me; but I must, I will,—I will tell you truths while I can" (855). When Emma does not want to leave her father's house to get married, Mr. Knightley's thinking trait appears and he suggests they live with her father as a compromise.

One of the sweetest and most straight forward characters in Jane Austen's novel exemplifies the ISFJ trait. Jane Bennet from *Pride and Prejudice* remains content to stay at home and be with her loved ones, even though she does accompany her sisters to town and to dances. Jane sees people at face value and cannot see Caroline Bingley as manipulative. Although Jane does not open up easily to strangers, she shares her feelings with her sister Elizabeth. "I am certainly the most fortunate creature that ever existed!" cried Jane. "Oh! Lizzy, why am I thus singled from my family, and blessed above them all!" (384). After Mr. Bingley leaves without proposing to her, Jane becomes determined to change her feelings and forget about him. However, after he speaks to her emotions and opens himself up to be vulnerable, Jane also shares her true feelings with Mr. Bingley.

Charlotte Lucas, also a character from *Pride and Prejudice*, exemplifies the trait ISTP. Charlotte accepts Mr. Collins's proposal because she knows she will not get another offer. She sees the world in simple terms and does not hope for love in a marriage. "I am not romantic, you know; I never was. I ask only a comfortable home; and considering Mr. Collins' character, connection, and situation in life, I am convinced that my chance of happiness with him is as fair as most people can boast on entering the marriage state" (267). Feelings may come into play in later years, but the thinking trait allows Charlotte to make a logical decision on how she will spend her future. Even though she does not hope for love herself, Charlotte perceives the feel-

ings between Mr. Darcy and Elizabeth Bennet, even when Elizabeth cannot see them herself.

Unwilling to share her emotions with others, Catherine Morland from *Northanger Abbey* personifies the ISFP trait. Catherine likes to be alone, reading Gothic novels, and is encouraged by her mother to do this instead of talking out her emotional distress. “I am delighted with the book! I should like to spend my whole life in reading it. I assure you, if it had not been to meet you, I would not have come away from it for all the world” (930). Catherine lets her emotions run away with her and makes up stories that she believes, showing the “P” trait. However, Catherine enjoys tangible things as well, such as cricket and horseback riding. These things ground her to the real world and help her to grow friendships.

Jane Fairfax from the novel *Emma*, although not a main character, displays the trait INFJ. She remains reserved and quiet, even when brought into conversation with others. Her intuitive trait shows up when in her responses. She speaks in poetic language and does not give a straightforward answer. “There was no getting at her real opinion. Wrapt up in a cloak of politeness, she seemed determined to hazard nothing. She was disgustingly, was suspiciously reserved” (744). Jane acts friendly to her acquaintances and keeps the peace in social settings. She stays true to her engagement with Frank Churchill, even after he flirts with Emma. Jane does not let things phase her and endures things quietly.

The love interest for Elizabeth Bennet in *Pride and Prejudice*, Mr. Darcy, emulates the trait INTJ. He only dances with people he knows at the local ball, not bothering to become acquainted with new people. He sticks to his opinion and will not concede to being wrong, until proved with concrete evidence. Mr. Darcy thinks much more than he feels, and in his first proposal to Elizabeth, he says that he does not understand his love for her, because it does not make sense. Mr. Darcy exemplifies “J” when he breaks apart Mr. Bingley and Jane Bennet. “I did everything in my power to separate my friend from your sister” (301). He does not perceive that they could be in love, and only looks at it through a logical standpoint. Despite his prideful beginnings, Mr. Darcy and Elizabeth complement each other in their differences.

Fanny Price, from *Mansfield Park*, exhibits an ideal INFP typology. She does not seek social stimulation to gather information but is content to be with her one true friend, Edmund Bertram. Fanny feels

deeply, and often says things of a poetic nature. "When I look out on such a night as this, I feel as if there could be neither wickedness nor sorrow in the world; and there certainly would be less of both if the sublimity of Nature were more attended to, and people were carried more out of themselves by contemplating such a scene" (467). Fanny knows that she loves Edmund and does not need to listen to her family and friends as they try and set her up with another man. She remains persistent in her "P" trait and hopes that someday Edmund will return the same affection that she feels towards him.

Mr. Bennet, father to five daughters in *Pride and Prejudice*, perfects the typology of INTP. He does not enjoy the parties that his family loves to attend and would much rather be tucked away in his study, reading books. This desire for knowledge connects the "N" with the "T" aspects of Mr. Bennet's personality. His quick and witty commentary aimed at his wife and daughters show Mr. Bennet's detached, yet humorous side. "An unhappy alternative is before you, Elizabeth. From this day you must be a stranger to one of your parents. Your mother will never see you again if you do not marry Mr. Collins, and I will never see you again if you do" (260). Mr. Bennet only wants the best for his daughters and allows unconventional pairings to take place. He sides with Lizzie on the rejection of Mr. Collins, but also questions her deeply when she asks his permission to marry Mr. Darcy. Even though he remains distant and would much rather be alone in his study, Mr. Bennet loves his family and wishes to see his daughters happy.

Jane Austen's novels receive praise for the complexity and humanity of the characters. By analyzing these fictional people, patterns can be drawn on how they see and interact with the world. The Myers-Briggs Type Indicator test can be applied to various characters in Austen's novels. Analysis of these characters help readers to identify with certain figures because they too might view the world in the same way as a character. Relatable and realistic characters signify a truly talented author and Jane Austen makes this a reality for not just one, but all of her novels.

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Inside Lipski

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“Washburn—Thy Strength Revealed”: Washburn University and the 1966 Tornado

Taylor Nickel

“A beautiful lady was attacked, beaten, battered and scarred last Wednesday night. Her name was Topeka. But she will recover—to new and more magnificent beauty.”

-Bert C. Carlyle, “Queen Of Kansas Cities Now Carries Ugly Scars”

On the night of Wednesday, June 8, 1966, an F-5 tornado tore through Topeka, Kansas for a total of thirty-four minutes, causing seventeen deaths, approximately 550 injuries, and more than \$100 million in damage – the costliest tornado in history at the time. With modern-day inflation taken into account, the tornado cost nearly \$1.8 billion in damage and still ranks as one of the costliest tornados in history. A Native American legend historically claimed that any tornado approaching Topeka would have its tail clipped off by Burnett’s Mound, a sacred burial ground just southwest of Topeka. Controversy had even risen when five years prior to the tornado, a water tank was built atop Burnett’s Mound, later sparking the belief that the 1966 tornado was retribution for the water tank’s construction. Despite the water tank controversy, the Burnett’s Mound myth fueled the notion that the city of Topeka was impervious to tornados,

though this legend was quickly laid to rest following the natural disaster that plowed directly over the mound and then left a twenty-two-mile diagonal gash through Topeka in the summer of 1966. In its wake, the storm caused significant damage to several historic landmarks, including the Kansas State Capitol dome, the National Reserve Building, and Washburn University, in addition to damaging several public and commercial properties, and destroying over 800 homes. An emotional narrative of the tornado's destruction and its impact on nearly 140,000 lives is briefly detailed in the three-page article "Queen Of Kansas Cities Now Carries Ugly Scars," written in 1966 by reporter Bert C. Carlyle. While Carlyle argued that the beautiful lady, Topeka, would recover following the storm, he also stated that she would "carry deep scars for the rest of her life" (Carlyle, 1966, p. 9), a fact that rang especially true for Washburn University. Washburn University laid right in the path of the tornado, taking a direct hit that resulted in all thirteen of its campus buildings being damaged and nearly 600 of its trees being uprooted. Despite the extensive damage done to the campus, Washburn University officials and students alike viewed the tornado as an opportunity to rebuild and showcase Washburn's strength during a time of devastation. Through proper assessment of the damage, Washburn's campus was cleaned up and rebuilt, all while an academic environment was maintained for students.

While the city of Topeka endured severe damage from the 1966 tornado, Washburn was viewed as virtually demolished in the storm. In a letter addressed on July 1, 1966 to Washburn's then-Vice President, Richard Vogel, the damage done to Washburn's campus was surveyed and reported in percentages by Donald Schnacke, a representative from *Engineers – Architects Van Doren-Hazard-Stallings-Schnacke*. While the report did not attempt to "survey fraternity and sorority houses or the Womer residence," and did not "reflect damages to contents of the buildings" (Survey of Damage of Campus Buildings and Facilities, 1966), eight prominent buildings on campus were assessed and listed as severely damaged or completely destroyed: Rice Hall (totally destroyed), Boswell Hall (75% destroyed), MacVicar Chapel (totally destroyed), Crane Observatory (85% destroyed), Carnegie Hall (80% destroyed), Thomas Gymnasium (85% destroyed), the Air Force ROTC building (totally destroyed), and the physical plant (45% destroyed). Five out of the eight buildings in the report were deemed as damaged beyond repair, resulting in Washburn being forced to esti-

mate costs for demolishing the old structures and building entirely new structures. It was initially estimated that the restoration of the main eight buildings would cost a little over \$1.9 million, while the construction of entirely new facilities would cost a little over \$2.3 million. These estimated costs did not include the \$60,000 that were expected to be spent on cleaning up the campus and the other additional costs that would come with restoring all parts of the campus, bringing the original estimated total cost to just over \$3.2 million to begin restoring Washburn's campus. Final reports later confirmed that the damage done to Washburn correctly amounted to nearly \$10 million in total. Thankfully, three months prior to the 1966 tornado, the Washburn Board of Trustees had reinsured each campus building for their respective maximum amounts. Unfortunately, the insurance claims alone did not cover the full expenses, as explained in a letter to then-Vice President Vogel on July 20, 1966. According to the letter, the insurance liability was "restricted to whatever amount identical construction would cost," meaning insurance claims legally were unable to financially aid in the restoration process and could only meet the original construction costs of the buildings (Tornado Loss Claims, 1966). Furthermore, the insurance claims were concerned with "building structures only," and were not liable for any of the buildings' contents (Tornado Loss Claims, 1966). In the end, Washburn's insurance was only able to cover approximately \$2 million of the damage done by the tornado, resulting in Washburn being forced to turn to the community for further help.

Despite this massive financial burden in the wake of the tornado, no time was wasted in spinning the devastation into a moment of opportunity, as Washburn adopted the phoenix as a symbol for their plans of cleanup and restoration. Several motivational quips were even used to describe Washburn in the years following the 1966 tornado, including "Merely a Break in Stride" and "Washburn's 'Second Wind'" (*Phoenix Legend Lives With WU*). Dr. John W. Henderson, then-President of Washburn University and then-President of the Kansas capital's Board of Goals for the 70's, proved to be a critical figure in Washburn's rebound process. Immediately following the natural disaster, then-President Henderson quickly urged that the cleanup process of Washburn's campus happen almost immediately, stating that any delay in the process of removing debris could result in buildings quickly becoming "rat-infested bird havens and hangouts

for transients” (Creek). Thus, Operation Ichabod was constructed with the plan to remove one of the biggest problems for the university: the debris littering the campus. Calling on the community for help with Operation Ichabod, a list of cleaning “do’s” and “don’ts” were outlined, asking volunteers to pick up, rake, and load trash, while avoiding any buildings, trees, copper wires, and light poles (Operation Ichabod). A first aid station and a telephone hotline for the station were also established to ensure the safety and well-being of all Operation Ichabod volunteers. Operation Ichabod continued throughout the summer of 1966, eventually working to clear rubble, replace windows and roofs, and clean buildings. With the consistent work of Operation Ichabod volunteers, Washburn was able to remove the majority of the debris from the campus, allowing plans of restoration to begin.

Though debris was removed from the campus – thus addressing a large problem for Washburn – the university still faced a slew of other dilemmas, such as the financial need for the restoration process. After months of Washburn’s official boards and administration studying the university’s many needs, Washburn held the Convocation of the Phoenix on October 26 and 27 of 1967. The Convocation of the Phoenix was a program that was “designed to bring into focus some of the critical issues facing American higher education,” according to then-President Henderson (*The Convocation of the Phoenix, 1967*). The theme of the convocation was “Washburn – Thy Strength Revealed,” with emphasis on the legend of the phoenix, “a brilliant scarlet and golden plumaged bird” that “rose out of its own funeral pyre to live again” (*Phoenix Legend Lives With WU*). The Convocation was divided into two primary panel discussions, titled the “Placard or Program” and the “Second Wind” (*Phoenix Legend Lives With WU*). The first of the panel discussions was concerned with “some of the crucial issues confronting American education of concern to the university,” and discussed Washburn’s contributions to the Topeka community, state of Kansas, and the nation as a whole (*Phoenix Legend Lives With WU*). The first panel established the university’s importance in the community in preparation for the second panel, which was aimed at asking the community for donations or “gifts.” The second of the panel discussions was focused on “the need for re-examining the purpose, operations and needs of Washburn,” emphasizing Washburn’s financial needs after the tornado (*Phoenix Legend Lives With WU*). During the

“Second Wind” panel, “A Presentation of the Reconstruction Program of Washburn University of Topeka” was included, which discussed the remaining restoration costs with the community in an attempt to “earnestly solicit [people’s] interest and material assistance” (The Convocation of the Phoenix, 1967). According to the program’s flyer, the program allowed Topeka citizens to “look briefly at the past, evaluate the present, and take a longer look at the future” of Washburn (The Convocation of the Phoenix, 1967). The establishment of this program would later come to stand as “one of the greatest forward steps” for the university, as stated by then-President Henderson (The Convocation of the Phoenix, 1967).

While the Convocation of the Phoenix offered great strides in Washburn’s rebuilding process by bringing the community in on the project, there were several other small restoration projects that took place. In December of 1966, Washburn underwent a notably unique restoration project that focused on the campus’s lost flora specifically, known as “Christmas Trees for Washburn” (*Purchase of Christmas Trees To Help Restore Washburn Loss*, 1966). Proposed by Washburn graduate, Pendelton Miller, the plan asked Topeka citizens to buy living Christmas trees for the holiday season from certain nurseries and then donate the trees to Washburn after Christmas Day in order to replace the 600 campus trees lost in the tornado. Though these projects started out as small, they proved to be instrumental in Washburn’s recovery from the 1966 tornado.

While expenses posed a massive problem for the university in the long-run, Washburn also faced the immediate issue of what to do with students and the fast-approaching summer term of 1966. On June 9, 1966, the day after the tornado, faculty and staff of Washburn met to “discuss Washburn’s academic future,” where then-President Henderson stated that “there was never any question among the administrators” that Washburn would remain open despite the circumstances (*The Walls Came Tumbling Down*, 1966). Thus, less than a week after the tornado tore through Topeka, Washburn’s summer term of 1966 began right on schedule at Topeka West High School on June 10. On the subject of the summer term, then-President Henderson stated that he failed to see why Washburn “should not continue to move forward,” a resilient notion that both staff and students held onto throughout the term (*Summer Spotlight*, 1966).

By the fall term, students were finally moved back to Washburn's campus, but their university had changed drastically. During the fall term, students attending Washburn quickly became familiar with the term "Instant University," as their classes were taught in forty-one mobile trailer courts, also known as mobile "villages" or trailer classrooms (*Washburn Gets Instant Classes With New Mobile Trailer Courts*). Funded by the Office of Emergency Planning, these mobile classrooms constituted 122,000 square feet of classroom space and were designed to temporarily replace the campus buildings that had been damaged by the tornado. Though the Office of Emergency Planning covered the costs of the mobile classrooms for a year, it took years for Washburn's campus to be completely rebuilt, resulting in students attending classes in mobile classrooms well into the early 1970s with Washburn taking up the responsibility of paying for these classrooms. The use of these mobile classrooms eventually coined the student-given name "Trailer Tech" for Washburn. Despite these changes, Washburn's attendance did not skip a beat as 4,200 students enrolled in the 1966 fall term (*Washburn Gets Instant Classes With New Mobile Trailer Courts*).

In fact, with so many changes taking place at Washburn, other major changes were considered and occasionally encouraged, even a potential change of mascot for the university. In one Letter to the Editor of the *Washburn Review*, student Vaughn R. Black wrote that Washburn should seriously consider changing its mascot from the Ichabod to the Tornado. Black wrote that Washburn had "more right to the name, Tornado's [*sic*], than any school, anywhere," and that "at a place where change is all around," Washburn should consider "setting a new tradition" (*Tornado Tragedy May Be Cause For Ichabods To Change Name*). Black's idea to change Washburn's mascot was rejected, but the theme of change being in the air was certainly not stifled. Students learned to embrace Washburn's transformation, from the temporary mobile classrooms to the later brand-new permanent campus buildings.

Following the F-5 tornado that cut a diagonal gash through Topeka, Kansas on June 8, 1966, Washburn University's campus suffered severe damage and then subsequently underwent extensive changes. Despite being faced with approximately \$10 million in damage due to all thirteen of the campus buildings being impacted and nearly 600 trees being uprooted, Washburn's campus was cleaned up and rebuilt within the five years after the tornado, all while main-

taining an academic environment for students. Without the help of the Topeka community, Washburn's cleanup and restoration process would have been impossible, as Washburn heavily relied on the community during crucial projects such as Operation Ichabod and the Convocation of the Phoenix. Though the 1966 tornado left the city of Topeka shaken, the tornado held great significance both for Topeka and for Washburn, as both came to embrace the positive during a negative situation. By embracing the positive, both the city and its proud university enacted major changes that have since proven to be for the better. From 1966 to 1999 alone, several facilities were added to Washburn, including Mabee Library, Kuehne and West Residence Halls, Petro Allied Health Center, Bennett Computer Center, Falley Field, and the Bradbury Thompson Alumni Center.

As of 2019, Washburn has over thirty-five buildings on its main campus, including sorority and fraternity houses, with nearly 7,000 students attending the university. There are also still some mementos left from the pre-tornado Washburn campus, such as the bell that once hung in Thomas Gymnasium that now hangs in Kuehne Bell Tower and a stained-glass window that was originally place in Boswell Hall that is now located in White Concert Hall. Overall, the 1966 tornado gave Washburn a fresh start, resulting in transformations that constructed Washburn into the thriving university it currently is, encompassing Bert C. Carlyle's original hypothesis in his 1966 article, "Queen Of Kansas Cities Now Carries Ugly Scars," that Topeka would recover "to new and more magnificent beauty" (Carlyle, 1966, p. 7).

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Washburn Student Handbooks/ Planners and How They've Changed

Kayli Goodheart

Introduction

For decades, Washburn University has provided handbooks, agendas, and planners to students. In recent years, the planners have been distributed through the Washburn Student Government Association. Student planners have been a useful tool for many students by giving them a space to record their schedule and activities, giving them space to set academic and personal goals, and providing dates for campus events. The past century, these handbooks have undergone aesthetic (See Figure 1) and significant informational changes. Have these changes remained relevant to students?

1902-1903 and 1912-1913 Academic Years

In 1902, Washburn College provided a handbook for all of its students. This handbook was small in size and contained pertinent information. The first page of the handbook included a city map of Topeka (See Figure 2) and a title page which stated information included in the handbook was "Presented by The YMCA and YWCA of Washburn College." At the time, the Young Men's Christian Association (YMCA) and the Young Women's Christian Association (YWCA) were influential groups on campus. This is evident in the 1902-1903 handbook.



Figure 1: A collage of student handbooks/planners

There were advertisements, information, and activities included within the handbook provided by the YMCA and YWCA. It is apparent that the students of Washburn College were required to attend chapel and participate in either the YMCA or YWCA. Within the 1902-1903 student handbook, there was space for notes to be written. Though there were not as many student organizations at this time, information about the student organizations was spread throughout the handbook. This section provided information on membership, meetings, leadership, and the purpose of each organization. Another interesting feature of these handbooks was advertisements. Advertisements in this handbook were generally geared toward the students. Among some of the services advertised were laundromats, restaurants, and on-campus dining. The 1902-1903 student handbook also included a local train timetable. This table included information on the local trains, their destinations, and their departure times. At this time, Washburn College was located at its current location, between 17th Street and MacVicar Avenue and 21st Street and Washburn Avenue. Places of interest had a two-page spread in these handbooks, which included prominent churches, walking and/or hiking paths, and

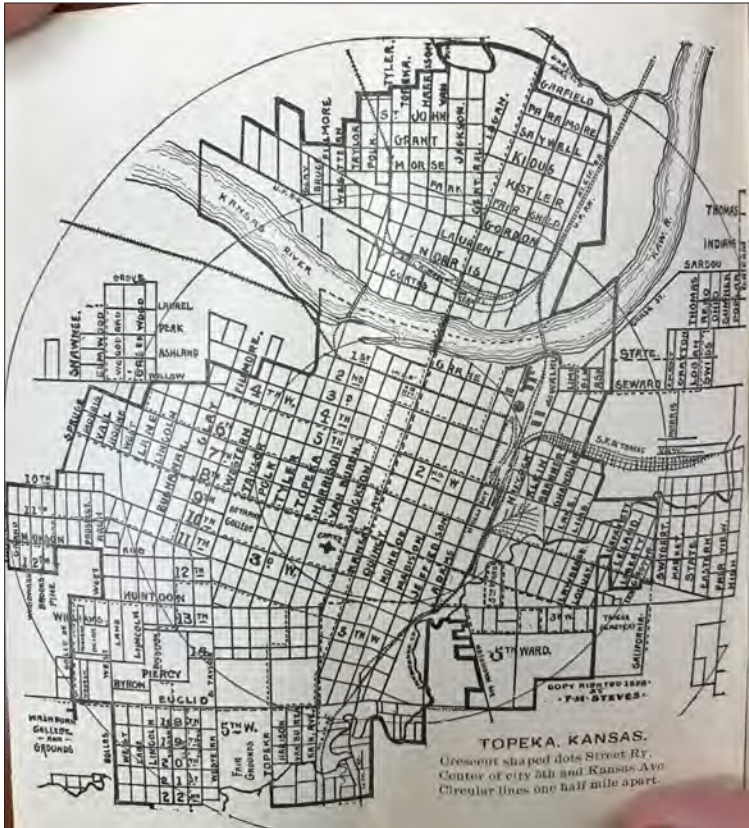


Figure 2: A detailed map of Topeka, Kansas

other interesting destinations in Topeka. Lastly, the student handbook included all student policies in place. These policies included rules such as Panhellenic Recruitment Rules, Fraternity Rules, dormitory policies, attendance policies, and student conduct policies. Overall, the purpose of these student handbooks was to acquaint Washburn College students with the Washburn “way of life.”

The 1912-1913 academic school year student handbook of Washburn College was titled “The Varsity Hand Book” and stated that it was published annually by the Christian Associations of Washburn College. These associations were the Young Men’s Christian Association and the Young Women’s Christian Association, the same groups that published the 1902-1903 student handbook. This edition did not include a map of campus or Topeka like the 1902-1903 handbook. The size of the handbook remained relatively similar to the first 1902-1903

Schedule of Studies—First Term

	8:07 9:00	9:07 10:00	10:07 11:00	11:07 12:00	12:07	2:00 2:53	3:00 3:53
Monday							
Tuesday					CHAPEL		
Wednesday					CHAPEL Y.M.C.A. Y.W.C.A.		
Thursday							
Friday					CHAPEL		

Schedule of Studies—Second Term

	8:07 9:00	9:07 10:00	10:07 11:00	11:07 12:00	12:07	2:00 2:53	3:00 3:53
Monday					CHAPEL		
Tuesday					CHAPEL		
Wednesday					Y.M.C.A. Y.W.C.A.		
Thursday					CHAPEL		
Friday					CHAPEL		

Figure 3: Schedule of studies

edition. This year’s student handbook included a list of important academic dates. For example, the list included the date that classes began, when registration for courses began, scheduled breaks, and other important information pertaining to all students. Similar to the 1902-1903 edition of the student handbook, “The Varsity Hand Book” included information about the YMCA and YWCA throughout its pages.

One significant difference between this year’s edition and its earlier counterparts was the addition of the Student Council Rules. The Student Council of Washburn College in 1912-1913 was the equivalent of today’s Washburn Student Government Association. Student Council consisted of representatives of the student body. They held events and took stances on important campus issues. Another new feature of this student handbook was the addition of a schedule of studies, (See Figure 3) the first real move toward making the student handbook a place to keep track of important course information and daily activities. The schedule included time slots for courses and for daily chapel at 12:07 p.m. (except for Wednesdays, which was when

YMCA and YWCA meetings were held). It is unclear whether every student was required to attend chapel, but it seems by this course schedule template that it was factored into every student's schedule at the time. The 1912-1913 student handbook, like the 1902-1903 edition, included information on student organizations. For example, there were many bands and ensembles as well as fraternities, sororities, and religious organizations that students could learn about in their handbook. Similar to the places of interest in the earlier editions of the student handbook, this version contained places of interest such as walking/hiking paths, the Kansas State House, and churches. There were not too many substantial differences between these two handbooks considering they were published a decade apart.

1924-1925 and 1935-1936 Academic Years

In 1924-1925, Washburn College's student handbook was titled "The Student Hand Book of Washburn College" and was published by the Young Women's & Men's Christian Associations. Though there were not many substantial differences between this year's handbook and those of earlier decades, there were some minor adjustments to the layout and overall aesthetic of the book. For example, the cover of the 1924-1925 is different, but the size of the book is fairly consistent. Like earlier versions, this edition of the student handbook included information on places of interest in Topeka. Advertisements for goods and services in this edition were again spread throughout the book. An interesting addition to these student handbooks is the Washburn History section. This section of the book included information on why Washburn College changed its name from Lincoln College, and even included interesting information about Ichabod Washburn. Another important and critical addition to this version of the student handbook were the locations of important offices on campus. Though there were not nearly as many offices on campus as there are today, this piece is important to include for students new to the college. This is a section of the student planners that Washburn University still features today.

The 1935-1936 edition of the student handbook saw some dramatic changes in style and audience. Titled "The W Book," this handbook was published and distributed to Washburn College students and provided by the Washburn College Student Christian Association. The inside cover of the book bore a phrase "This book is the property of." Advertisements for goods and services were strewn throughout

its pages, but this edition included an index in the back of the book with a list of advertisements used in the handbook. The handbook overall was divided into separate sections, part I being titled "General Information and Rules." This section contained information about Freshman Week, which took place the very first week of classes. There were several events for freshmen and the student handbook provided information on these events, such as a description of the activity, where it was going to be held, and what time the event was scheduled for. The next section of the handbook included the traditions of Washburn College. Among these traditions were Freshman Caps, Varsities, the Law School Scramble, Bench and Bar Day, the Lawn Fete, Senior Sneak Day, and other traditions at football games. Among other information included in this version of the student handbook was an athletics schedule, track records, and a campus directory. The campus directory included the names of faculty and staff on campus and where their offices were located. Overall, these two decades of student handbooks saw some significant changes in their purpose. Before, the purpose of the handbooks was to provide vague information about religious organizations on campus and some student policies, but these two decades of handbooks brought more information to the students about organizations and other activities on campus.

1957-1958 and 1967-1968 Academic Years

The next available copy of a student handbook in the Washburn University Archives and Special Collections was published for the 1957-1958 academic year. It is not apparent whether this break in the availability of student handbooks was due to the fact that they were not published during these years or whether they were simply not set aside for future generations to enjoy. The 1957-1958 version of the student handbook was titled "The Ichabod Book," a "Handbook for New Students." Inside the front cover of the handbook, there was a message from the Editor, Shirley Williams. The message read:

Welcome to Washburn, new Ichabods. This Handbook is designed to help you avoid that lost, bewildered, feeling that frequently accompanies enrolling in a new college. We hope that you can find answers to many of your questions in this book. We'd also like to acquaint with the traditions and spirit of our school, and we hope to make you feel at home at Washburn. This Handbook,

WASHBURN SCHOOL SONG

Words By
Francis Storrs Johnston

Mus. By
Lucy Platt Marshberger

A Song Of Our Prairies Wide A Song Of Our Breezes Strong A
Song Of Our Pride The True And The True Of Our College Dear A Song

Chorus
Washburn Washburn We Love Thee Well Ours Is The Joy Thy Praise To Sweet
With Voices Free We'll Sing Of Thee And Ever Thy Praise We'll Tell

Verse 2:
Tis not for thy hoarded light
Tis not for thy stately halls
But tis for the right,
The sword of might
Thy song shall be the seal

Verse 3:
The winds for thee music make
The prairies their strength reveal
Our glorious state,
Our Kansas great,
On thee has set her seal.

Figure 4: Washburn School Song

sponsored by the Washburn Student Council and Office of Student Personnel Services, has been prepared to help guide you through the coming year. We hope you enjoy your life at Washburn!

It is clear that the intended audience of these handbooks were new Washburn students. This handbook saw a multitude of changes compared to earlier versions. For example, this version included a table of contents, information about academic advising, where to go for student services, housing rules and information, requirements for graduation, information about parking fines, a 2-page map of campus, illustrations of students, a list of student organizations, and the Washburn School Song. At the time, the housing on campus was very different than the current offerings on campus. For example, at this point in Washburn history, Benton Hall was used as a dormitory only for women. All women that were students at Washburn University were required to live on campus. Male students of Washburn University

were not required to live on campus and the only available housing for them were in fraternity houses, which were located off campus at the time. The list of student organizations in this version included a list of twenty-nine active organizations, in addition to honorary organizations and social organizations, and fraternities and sororities. On top of this new information, the handbook also included the Constitution, Bylaws, and general information about the Washburn Student Council. In the back of the handbook, the Washburn School Song, complete with sheet music, was displayed (See Figure 4).

The 1967-1968 handbook was titled "Student Handbook." This handbook included more detailed information about academics than earlier versions. For example, there was information about how courses were graded, how to withdraw from a course, and how to become part of the University Honors Program. After this academic portion, there was a section titled "Here to help you" which included names and photographs of the Deans of each school within the University. It is fairly evident that this version of the handbook was centered around student academic success. Similar to earlier handbooks, the 1967-1968 handbook included a list of all active student organizations. This version, however, included descriptions of each organization. Another interesting feature of this handbook was the large campus map and legend located in the middle of the book.

Next, a section titled "See You in the Union" highlighted the new Union building which was built after the devastating tornado that tore through campus in June of 1966. Similar to earlier versions, this handbook included an academic calendar, football and basketball game schedules, and a section titled "Fight, Fight, Fight" which highlighted campus traditions. Two new features in this particular handbook were a section about study abroad programs as well as "A Rule's A Rule," which highlighted the General Conduct Policy, driving on campus, and the Student Drinking Policy. The overall purpose of these two decades of handbooks was to inform new students about the campus climate, traditions, policies, and activities.

1972-1973 and 1977-1978 Academic Years

The 1972-1973 student handbook was also titled "Student Handbook." This year's version of the handbook did not see many changes in the information provided within. It is not evident whether the intended audience was new students, as it was with the handbooks in

the 1950s and 1960s. The beginning of the handbook included a section titled "Need Help???" in which one could find information on where to go for questions they may have. The list of resources was provided directory style, for example, the topics and/or questions were listed on the left-hand column of the page and their respective offices and/or personnel in charge were listed on the right-hand column of the page. This provided easy access to answers for students who many have not known how to navigate Washburn. Next, the handbook included a section on the history of Washburn and some of the most recent important events.

This handbook was one of the first versions that included photographs throughout its content. These photographs highlighted social events, academic events, and athletics. "Special Interest Clubs" was a section of the handbook which listed all student organizations and honor societies on campus and information about their purpose. After this, there was a section titled "Campus Jargon" in which University jargon was defined. For example, this section highlighted the definition of a credit hour and the definition of other academic terms like grade point average. Again, this version of the student handbook included an academic calendar in a list style. The Washburn School Song was included as well, this time only the lyrics were displayed. Finally, the back portion of the handbook provided a campus map accompanied by a legend.

The 1977-1978 "Washburn University of Topeka Student Handbook" saw many aesthetic changes in comparison to its earlier counterparts. Overall, the length of this handbook was comparatively longer as well. The inside cover of this handbook included the University crest with the Latin phrase "Purifactus Non Consumptus," which means "purified but not consumed." This Latin phrase is still displayed as part of the University crest today. After this, there was a "campus welcome" written by the President of the University, the Vice President of Academic Affairs, and the President of the Washburn Student Association, which is a feature of the current handbooks provided.

This edition of the handbook was the first to provide a full academic calendar. Each month was spread across two-pages. On this calendar, important campus events were noted. Throughout the handbook, there were biographies of faculty and staff as well as a list of important personnel to speak with if one had questions



Figure 5: A detailed campus map with legend

about specific topics. Like earlier editions, the 1977-1978 handbook included information on academic departments and standards, a list of all student organizations and a description of their purpose, and student policies. A new feature of this version was a section including important information for all transfer students. Another addition to this handbook was a section titled “Here’s Where It Is” which featured offices on campus for financial aid, student resources, and even where to go to receive the “Good Student” discount on car insurance. The next portion of the handbook was titled “Where the Fees Go,” in which a table was provided to show students where their \$10 student activity fee funds were allocated. The Washburn history section in this handbook was titled “About Our Past.”

Another new feature of this handbook was a section with photographs of each building on campus and a description of which academic disciplines were housed there. Similar to other student handbooks, this version contained athletics game schedules, a detailed campus map (See Figure 5), and the Washburn School Song.

Though these handbooks were published within the same decade, it is interesting to see just how much change happened on campus within those few years. Compared to earlier versions of student handbooks, these two in comparison to each other were vastly different.



Figure 6: A directory of all Washburn students

The aesthetic of the two were dissimilar, yet they accomplish the same goal of acclimating students to life at Washburn University.

1983-1984 and 1996-1997 Academic Years

1983-1984 was the first year which the handbook included a student, faculty, and staff directory. Comparatively, the size of this directory/student handbook was much larger than its earlier counterparts. Before, these handbooks were pocket-sized and very light-weight. The directory/student handbook for the 1983-1984 academic year was nearly the size and thickness of a spiral notebook. On top of the full student, faculty, and staff directory, the handbook also included the contact information for all University administration and even the Kansas Board of Regents. The campus map included in this version of the handbook was located in the first few pages. The foreword to the handbook was written by the President of the University at the time, Dr. John L Green. This version of the student handbook included a list of important personnel on campus, the “Here’s Where It Is” section, and information about tuition and fees. The University had recently introduced counseling services and there was a section including information about the services they provided. This is a feature of the student handbooks that is still included today. A couple

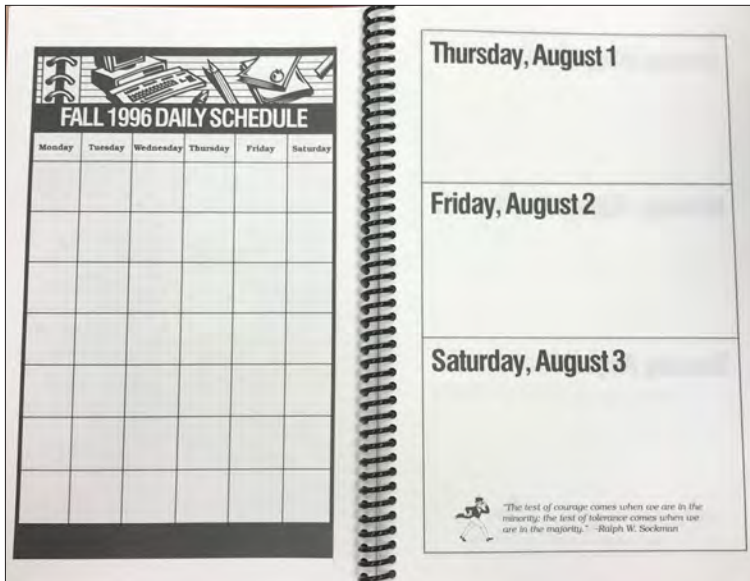


Figure 7: Weekly planner/agenda

of new features to this handbook were the “People To Get To Know” section and a “Frequently Called Numbers” section. “People To Get To Know” included a list of Vice Presidents of the University, Deans of academic departments, and other administrators on campus such as the Director of Facilities Services. “Frequently Called Numbers” was located in the very back portion of the handbook behind the student directory (See Figure 6) and provided a space for the student to write the name, address, and phone number of important contacts.

The 1996-1997 academic year saw many changes to the student handbooks as well. First and foremost, the handbook got a complete makeover. The title of this year’s handbook was actually “Student Planner.” This planner was the first real move toward the planner/agenda that Washburn University students enjoy today (See Figure 7). The book itself was no longer leather bound, it was actually bound with a plastic cover and backing as well as a spiral binding (See Figure 8). This is another feature of the student planners that is still utilized today. The very front page of the planner included a section to write the student’s personal information should the planner be misplaced. A section was provided in the front portion of the planner for important phone numbers, just as the 1983-1984 directory/student handbook. Next, the planner provided a section titled “Free Student

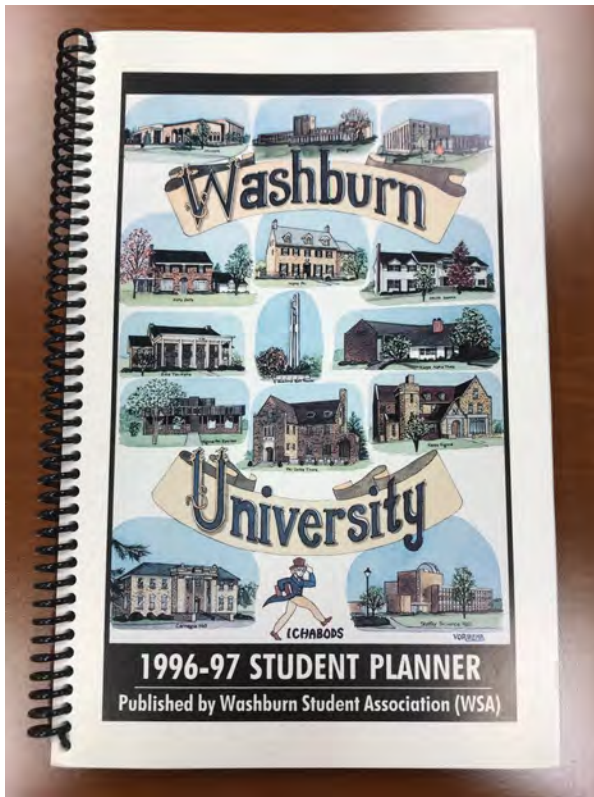


Figure 8: The first planner with plastic binding

Services.” Among these were discount programs, counseling services, and other on campus resources for students. Another feature added to this planner that is utilized today was the weekly planner, complete with a motivational or witty quote for each week. Though this version of the student handbook/planner did include advertisements like the first few editions, the advertisements were for on campus resources and stores. An interesting feature of the planner portion were student organization advertisements. Random weeks throughout the calendar included information on large organizations like the Washburn Student Association. Lastly, the back portion of the planner included coupons for on campus stores and dining halls.

2004-2005 and 2014-2015 Academic Years

The 2004-2005 “Student Planner & Handbook” saw some significant changes as well. Features similar to earlier editions include: per-

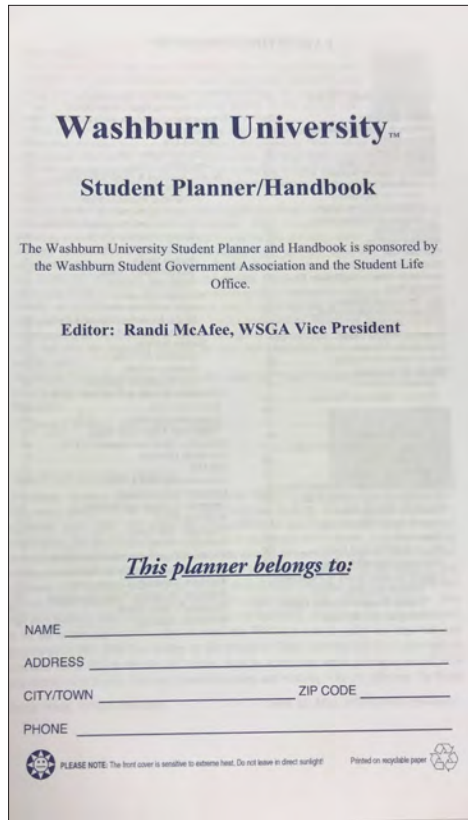


Figure 10: The 2014-2015 Student Planner/Handbook inside cover

Another interesting and important section of the planner was dedicated to the Washburn University Police Department. This section provided information on the department and the services that they listed. Alongside this information, crime statistics on certain offenses such as sexual assault and theft were provided. These statistics were broken into categories, on campus and off campus. Of course, safety tips for students, faculty, and staff were provided in addition to these crime statistics, as well as on campus resources for victims of crime. Similar to earlier planners, this planner included a weekly/monthly calendar with important campus events included. The back of the planner included a section titled “English {MLA style of documentation}” section (See Figure 9). This resource provided information on how to use the MLA style, how to cite articles, and a lengthy list of frequently misspelled words.

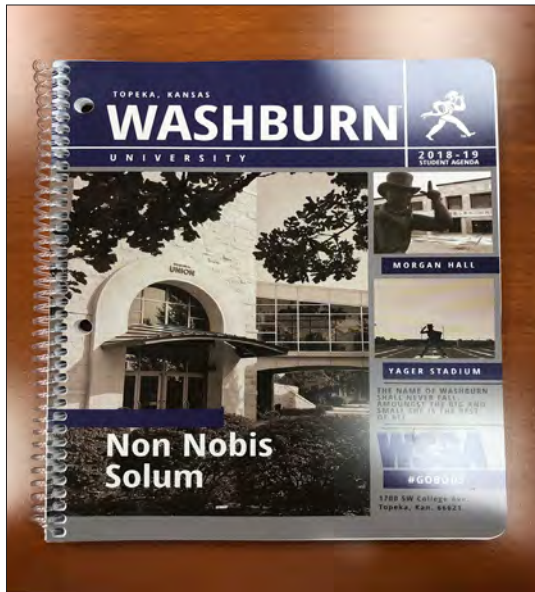


Figure 11: The 2018-2019 Student Agenda

In 2014-2015, the “Washburn University Student Handbook & Planner” provided much more information than any student planner or handbook had in the past. Many of these sections were in earlier editions, but some of the features were new to the scene. Features used in earlier versions and included in this planner were: personal information about the owner of the planner (See Figure 10), a table of contents, a letter of welcome from the President of the University and President and Vice President of the Washburn Student Government Association, information about WSGA, “The ABCs of How to Get the Most Out of Your Student Activity Fee,” Washburn history, a list of all student organizations, information about counseling and health services, an academic calendar, student policies, a notes section, a planner section with quotes each week, and information about the iSave program as well as coupons for local businesses. The University vision and mission statements were included in this edition of the student handbook/planner. The University Core Values (integrity, excellence, accountability, respect, collaboration, and innovation) were also included as part of the first section of the handbook/planner. Information about Residential Living, multicultural affairs, the Behavioral Assessment Team, Information Technology Services, MyWashburn, and the Washburn University Student Conduct Code

were also included in the first section of the book. A Plan of Action for students was also a new feature included. This provided a “timeline” for students to reflect upon as they earn their degree. Alongside this Plan of Action, a “10-Month Future Planning Calendar” was included to aid students in beginning to think about their next step with their education or their career path.

2018-2019 Academic Year

The current 2018-2019 “Student Agenda” is fairly consistent with the 2014-2015 edition with the exception of a few minor adjustments (See Figure 11). Features similar to earlier editions of the planner/handbook include: personal information about the owner of the planner, a table of contents, a welcome from the President of the University and the President and Vice President of WSGA, an important phone number list, the University vision and mission statements, the University Core Values, Washburn history, Washburn facts, a section about the campus, the Washburn Fight Song and Alma Mater, a detailed campus map with a legend, Policies & Procedures, a list of important academic dates, a daily schedule with notes sections, and the “10-Month Future Planning Calendar.” For each week in the planner, there is a section for both academic and personal goals, as well as room to write notes concerning each day. One other new feature added to this year’s student planner is a section about American Sign Language. This section provides each letter of the alphabet in American Sign Language and other important or common phrases used on campus. A world map is included toward the back portion of the agenda, as well as a section with room to write a class schedule for each semester of the academic year.

Conclusion

Since their introduction in 1902, the Washburn student handbook/planners have served a multitude of audiences and purposes. Throughout the years, the culture of the campus has played an important role in the information provided in the documents. From on campus resources to off campus activities, these books provided to students free of charge have been an incredible resource for students who may have needed extra support navigating college life. It is clear that Washburn University has invested in their students by providing these resources to them. There are many editions of these handbooks/

planners that urge students to become involved on campus and in the community. Though the handbooks/planners have changed fairly significantly aesthetically over the years, their purpose remains constant—to serve the needs of the student population in an innovative and creative fashion.

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The Heart of a Musician

Savannah Workman

When I first met Brett Lytle, I noticed his calm voice that gave me pointers on the first day of class. So sure of his skill in the art of the instrument, he practices performing, learning, and thinking about nothing but the cello for two hours every day.

Lytle thinks back to when he was a freshman in college, considering how much has changed for him and his instrument and how it led him to his final semester at Washburn University, transitioning into his new life of being accepted into the Master of Music Program at the University of Oklahoma, University of Kansas, University of Nebraska, and Texas Christian University.

“I think I definitely started college with not as good of an idea of what it means to be a dedicated musician, but maybe a better idea than some people start with,” Lytle said. “I was able to skate by because I practiced when I needed to and I had a good teacher. Freshman year, I don’t think it had kind of clicked yet that I have to act like this this is going to be a career and I need to treat it like a career.”

Lytle also believes that where music stems from is the disciplinary standards of playing and performing. The bar for outstanding musicians is being pushed higher and higher by successive generations of players and teachers. Lytle was also unsure of his performance level.

“In my mind I thought I was dedicated. But I want to say that the actual real kind of ‘crunch-time moment’ really came in the span of about one day when I kind of really figured it out. Really, I would call it my darkest moment of being a musician. It happened when I was trying to make a pre-screening video recording for a grad school audition. It is a huge shock because what you think you sound like and what you actually sound like can be two other worldly things,” Lytle said.

Hearing mistakes and tiny details were the beginning of his struggle of letting go of his ego that he claims is the root of realization when it comes to becoming a musician. This also stems from him playing back his recording and understanding that how he sounded wasn’t what he thought it was or at his expectation level.

“I was hearing music in my head but also kind of ignoring what was coming out of my instrument at the same time. I would hear it in my head differently, like a better version almost. Now flashback to December 22 of 2018, I’m hearing all of these things that I never really heard before that I kind of refused to accept that this is my own playing,” Lytle said.

He pokes and prods his mind of everything he could have done differently. Lytle agonizes over his horrible playing and understood at that moment something needed to change. Something was preventing him from the next stage of his life.

“I lay down on the floor, I put my hands over my face. I was at a moment where I was questioning everything that I had done. How did I allow myself to let all of these things slip through the cracks?” Lytle said.

At this time, when he was student teaching in Kansas City, his professor Maria Crosby suggested that he look up a Juilliard student studying the violin by the name of Noa Kageyama and his website called *The Bulletproof Musician* that is a blog about the lives and struggles of a musician, while also telling of the science of performing and psychological advances studying can have. There he came across one of his now idols.

“I stumbled upon this interview with a man named Jason Haaheim who is the principal timpanist in the Metropolitan Opera Orchestra. Watching those interviews, in that moment it was kind of life changing because he really just quantified all of these things that you can do on your own practice to help you kind of get over that

moment when you listen to yourself and it's not what you want it to be," Lytle said with more conviction in his voice.

What he learned was that the degree in music means nothing if a musician cannot dedicate their time to be focused and completely immersed in music. Music, for Lytle, is now nothing that he listens to, but is a sponge, soaking information like a dehydrated camel. Lytle now reflects on his years as a musician and has come to a standstill.

"Why don't I try these other things that everyone in the world has been telling me, but now this guy that I have never heard of is saying on this podcast. And it was really at that point that I started doing that. I really started to practice diligently."

Lyle states that he puts structures on himself to keep him honest to make a more valuable time of his practicing and learning. It is the art of getting down to the hard things about oneself that nobody particularly likes to handle. It is the art form of discipline that ties into commitment. That is what makes music so beautiful—order within chaos.

"I bought a full size calendar on New Year's Day and every single day I would write down how much I practiced and if the time is over two hours of deliberate practice in, I would write down that amount of time in a blue Sharpie on the calendar. You have to install these lizard-brain ways of holding yourself accountable because otherwise it's hard to change habits if you do not have that," as Lyle came to find out.

The calendar now serves as a visual record of the work Brett Lytle was putting into his music and studies. For him, it now a reminder of keeping those blue numbers on his calendar. If he does not practice enough one day, he receives a red Sharpie on the number of the day. He wants to keep those blue numbers going and obtains satisfaction from visually seeing how far he has come and where he must go for the future.

"You don't want to make it just about time. What I kind of thought before incorporating all of these things was: 'oh I am practicing, therefore I am being effective.' It is putting in a lot of hours in an effective way and how you're doing it."

It was at this moment that Lytle became fully and smartly committed to playing the cello and everything that goes into practicing and putting his knowledge on the table for audition judges to see and recognize.

“Okay, if I want to be successful in this, I have to figure out these ways of building my existence around fully embracing this process of continual refinement.”

This is how one becomes a musician and after the hours of practicing, the streak of the blue Sharpie, Lytle’s veins pop out of his skin, and that for him, is another visual sign of progress.

The Formation of Ideology in **1984**

Molly Murphy

The dystopian world depicted in George Orwell's *1984* depends on a politically enforced ideology by which totalitarian power is realized and maintained. English Socialism, Ingsoc for short, is the governing system over the country of Oceania, and its goal is to create loyal and obedient citizens whose lives are in complete service to the State. State power is represented by the image of a ubiquitous, infallible leader, Big Brother, "the guise in which the Party chooses to exhibit itself to the world" (Orwell 208). Representatives of Big Brother (in the case of *1984*, the Inner and Outer Party members) distribute the principles of Ingsoc, based on his ostensible direction. By the use of disciplinary and economic apparatuses, society is divided into a hierarchy of classes and kept in material working order, but a reality that includes the beliefs, values, and commitments of society requires that a controlled narrative discourse infiltrate citizens' minds and lived reality. The most powerful and effective force in the construction of such hegemony is the control of language. Instilling Ingsoc ideology through language entails two simultaneous projects: destroying Oldspeak and its linguistic environment, a language dissident with the principles of Ingsoc, and instituting Newspeak, based on an orthodoxy which resists interpretation and "demands unconditional alle-

giance" (Bakhtin 343). A power infused, undisputable discourse must be hegemonically forced upon individual and social consciousness.

Using literary theorist Mikhail Bakhtin's concepts relating discourse and ideology, the institution and maintenance of power can be understood as dependent on and created through controlled linguistic processes. Bakhtin describes discourses as interactional, interrelational systems of thought-infused language, made up of a multiplicity of voices which authentically live and operate as socio-ideological forces, essential to the becoming of an individual self and in social formation. Most basically, discourse embodies active participation in the ongoing linguistic processes that constitute an ideology and interpret lived experiences in the world. Language is "conceived as ideologically saturated...as a world view" (Bakhtin 271), and the words that inhabit language are "...shot through with shared thoughts, points of view, alien value judgements and accents" (Bakhtin 276). The nature of authentic language invites participation with or rejection of, not automatic allegiance to the ideology it relates. We selectively assimilate, appropriate, transmit and live out the discourses that are available in our social environment, which, in turn, form and transform our ideological consciousness. These are the processes which the Party seeks to suppress: it attempts to arrest and obliterate living language by which ideological identity is formed and performed, and it institutes Big Brother's reality by forcing it into social consciousness.

Bakhtin distinguishes two specific types of discourse which are significant in "the ideological becoming of a human being": "... in the process of selectively assimilating the words of others,...two basic modes are recognized for the appropriation and transmission—simultaneously—of another's words: 'reciting by ear'[authoritative discourse] and 'retelling in one's own words' [internally persuasive discourse] (Bakhtin 341). (brackets mine) By controlling these two types of linguistic processes, the Party is able to enact complete power over the citizens of Oceania by infiltrating their minds with a discourse concurrent with the political agenda of Big Brother:

The purpose... was not only to provide a medium of expression for the worldview and mental habits proper to the devotees of Ingsoc, but to make all other modes of thought impossible. It was intended that...a thought divergent from the principles of Ingsoc—should be liter-

ally unthinkable, at least so far as thought is dependent on words. (Orwell 299-300)

From childhood, before the “consciousness awakens to independent ideological life” (Bakhtin 345), young minds are indoctrinated with authoritative discourse of Ingsoc, with the intent of generationally filtering out all traces of Oldspeak in everyday language. Newspeak is taught before “the mind begins to work in an independent, experimenting and discriminating way, [when] what first occurs is a separation between internally persuasive discourse and authoritarian enforced discourse, along with a rejection of those congeries of discourse that do not matter” (Bakhtin 345). In other words, natural assimilation of language as it occurs in the mind and practices of a developing subject is refused opportunity. The Party constructs a language that is so pervasive in effect as to not only destroy and replace an ideology, but to continually enforce it in ways that quell resistance of any form. By halting the processes by which discourse is internally persuasive, Big Brother regulates human interpretive experience of reality through its own discourse while ensuring adherence to its political structure.

To fully expel a language that “is alive and developing,... the authentic environment in which it lives and takes shape” (Bakhtin 272) must also be destroyed. Oldspeak, ideologically located in the “uninterrupted process of historical becoming that is characteristic of all living language” (Bakhtin 288) seeks continuation in the present and therefore must be historically, structurally and semantically transformed or entirely erased.

Discourse exists in living, social contexts, so to scrutinize and monitor societal activity is to control the linguistic environment in which meaning is created. Ingsoc hegemony works through ideology to extricate language from independent thought and subordinate subjects to the authoritative discourse of Ingsoc by refusing interactions with other “voices” which are integral to an internally persuasive discourse. With the constant, booming voice of Big Brother over surrounding telescreens and the orthodoxy it espouses, Big Brother silences those other voices which hold “contradictory opinions, points of view and value judgements...in the consciousness” (Bakhtin 281). Daily activities are produced and regulated by the principles and concepts which Newspeak contrives. Even “the essential crime that contained all crimes in itself” (Orwell 19) could be made impossible

by the re-systematizing of language. "Thoughtcrime" is any idea or thought, no matter how inconsequential, that could be interpreted as dissenting or threatening to the ideology of the State. It occurs when internally persuasive discourse influences a subject and begins to resist the authoritative discourse. A Newspeak lexicographer explains: "Don't you see that the whole aim of Newspeak is to narrow the range of thought? In the end we will make thoughtcrime literally impossible, because there will be no words in which to express it" (Orwell 52). With greater control over words, "the range of consciousness [becomes] always a little smaller" (Orwell 52). Newspeak becomes the authoritative discourse which chokes the life out of the internally persuasive.

"Whoever controls the past," ran the Party slogan, "controls the future: whoever controls the present controls the past" (Orwell 34). Re-writing history requires constant alteration of facts about the past. To safeguard this falsified history, the Ministry of Truth, where Winston works, eliminates or changes information from every form of text, and "...the chosen lie would pass into the permanent records and become truth" (Orwell 45). In doing this, the Party subordinates the present and conforms it to the illusion of the protection and good-will of the State. Reality is being constantly replaced with different versions, until all that remains of history are memories or traces of what once existed that have escaped edit. Who Big Brother really is and where he came from is irrelevant, it only matters that he is all-powerful, all-knowing, and "always watching you."

Traditional language-based art forms such as literature, songs, plays, and poetry are discarded or re-invented, for they are filled with expressions of free thought and open up discourse to discrimination and interpretation. The multiplicity of voices present and active in a novel, for example, call into question the authoritative and stimulate individual consciousness to participate in the formation of ideology. Even Winston's diary is punishable by death, for it is one way of preserving Oldspeak. Before his mind is "not fully under control," Winston is able to transmit what he really thinks and believes into words: "Down with Big Brother," written over and over again (Orwell 20).

In order to allow for the structural installment of authoritative discourse, Newspeak pares down language into words that represent only necessary, concrete, objectified concepts. "It's a beautiful thing,

the destruction of words" (Orwell 51), a fellow Party member gloats to Winston over the Newspeak Dictionary. Ideologically freighted words, and hence their relationship to their corresponding concepts, such as "honor, justice, morality, internationalism, democracy, science, and religion had simply ceased to exist" (Orwell 305). For those words that remain employable, the Ministry of Truth exploits the arbitrary connection between signifying word and signified concept. To justify the infallibility of the Party, "there is a need for an unwearying, moment-to-moment flexibility in the treatment of facts" (Orwell 212). Constructions like "doublethink" and "blackwhite" impose the habit to accept and believe "contradictions to plain facts," and "to forget that one has ever believed the contrary" (Orwell 212). In other words, the State determines to control how words and concepts are linked together, which inhibits the natural play among them that is responsible for the meaning-making process. Language is re-structured "as a system of abstract grammatical categories" (Bakhtin 271) dependent on the distribution of concepts at the will of the State. The new semiotic system transmits the ideology of the Party as "authoritative discourse."

This was done partly by the invention of new words, but chiefly by eliminating undesirable words and by stripping such words as remained of unorthodox meaning... Newspeak was designed not to extend but to diminish the range of thought, and this purpose was indirectly assisted by cutting the choice of words down to a minimum. (Orwell 300)

As natural discourse is historically and structurally disabled, literally torn from tradition, Newspeak is promoted as the only recognizable construct through which discourse is mediated. Even the grammatical structure of Newspeak was "deliberately constructed for political purposes" (Orwell 303). Applying the same strict rules of grammar to all rhetorical forms halts linguistic processes; tenseless verbs remove language from its social context and isolates the speaker from the past and the future, leaving them "placeless" in history. Newspeak grammatical structure confines and artificially solidifies meaning rather than permitting ideological inflections and nuances related by tense, mood, aspect and voice. By limiting morphological scope, a wide range of concepts are cancelled. "Given, for instance, the word 'good', there was no need for such a word as bad, since

the required meaning was equally well--indeed better--expressed by 'ungood'" (Orwell 302).

Once authentic linguistic processes are stopped and forgotten, authoritative discourse may be imposed without resistance. Winston, having mentally persisted as long as he could, is finally taken to Room 101 in the Ministry of Love, where thought criminals are rehabilitated—taught to love Big Brother. This is done through mental and physical torture, until the dissident is depleted of locutionary ability, purged of linguistic consciousness, and is fully submissive to the authority of the state.

The integration of the mind into the ideology of the Party at the Ministry of Love, which, contrary to its name and by means of "doublethink," concerns itself with torture, consists of three stages: learning, understanding, and acceptance (Orwell 260). To Bakhtin, these processes are integral to internally persuasive discourse and naturally occur when language is allowed subjective engagement with the language user. When the active life of discourse is usurped by a commanding authority, however, learning, understanding, and acceptance become artificial compliances devoid of conscious, internal application.

For the "learning" stage, Inner Party member, O'Brien, first explains the principles of Ingsoc orthodoxy, even revealing its methods of manipulation, because in the end they will not matter. To instill "understanding" requires a complete brainwashing and mastery of doublethink, a Newspeak term which means the ability to unconditionally believe the principles of Ingsoc, even if that entails believing contradictions and logical absurdities. "Two plus two equals five" is engrained into Winston until he automatically repeats the falsehood. "Acceptance," the last stage is full submission of the mind, an ideological surrender that effects a genuine belief in the lies of the State. Winston is threatened with "the worst thing in the world," his greatest fear, until he betrays the woman he loves. His ability to think and speak from any subjective ideological conviction is obliterated and replaced by the totalitarian consciousness of the Party. Winston is completely subsumed by its authoritative discourse.

Often taken for granted, language is perhaps the most influential force in the formation of ideology and in the way people interpret the world. By its nature, language functions through interactive processes that allow relations among the plurality of consciousnesses in

language use. Refusing interaction among and expression of shifting perspectives and interpretations by authoritative enforcement is inimical to authentic language. Such is the case of political power enacted through discursive processes in *1984*, where we can see how interwoven language and ideology are and how dangerous control over language can be.

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Toy Cars

Zandra Sneed-Dawkins



Setting Roots in the Past

Mikaela Cox

Washburn University, known most for its reputable law and nursing schools, had deep roots in the founding of medical education in Kansas. Among the first medical colleges in the state, the Kansas Medical College first opened with no affiliation to a college. Washburn College had turned down the offer due to the financial risk. In September of 1890, the college began enrolling students, saving money as instructors declined pay until the institution was stable. The school took part in reorganizing the Association of American Medical Colleges.¹ Aligning with American Medical Association guidelines, the medical college transitioned from a three-year course of study², to a four-year study, in hopes to enhance learning and produce more educated and prepared doctors. After forming a reputation for itself, the Kansas Medical College sought a merger with Washburn College again in 1902, this time a successful effort. As Washburn took more and more control of the medical school, a new location was purchased in downtown Topeka, on Quincy St.³ The medical college was not structured to sustain classrooms, clinicals and laboratories all in one building. Therefore, classrooms and laboratories became the main focus of the Quincy building, while Washburn made many relationships with area hospitals to provide students with clinical experi-

ence.⁴ These relationships strengthened the college, but maintaining a medical college was expensive, as it must provide adequate staffing and maintain guidelines set forth by the Association of American Medical Colleges.⁵ To maintain these standards, the college would need to renovate the building it was currently housed in. As the quality of medical education and available resources for students was researched across the United States, the future of medical colleges, including the Kansas Medical College, would forever be changed.

In November 1909, Washburn was visited by a man by the name of Abraham Flexnor. Throughout 1909, Flexnor toured the country to report on the quality of medical education at any school claiming to teach medicine.⁶ In his visit to the Kansas Medical College, Flexnor was greeted by Dr. William E. McVey. In his tour, McVey showed Flexnor to some of the laboratories and classrooms, including the dissection room in the attic. However, McVey was unable to show Flexnor many of the available laboratory apparatuses, because anything that could be moved was locked.⁷ As a result of Flexnor's limited time, he was only able to visit Christ's Hospital. This means that Flexnor's ability to attest to the medical quality at the clinical sites for the Kansas Medical College was based solely on this individual visit.⁸ During his visit, Flexnor kept a detailed record of everything that he saw. From this record, he compiled information from each visit into the Flexnor Report, which was published by the Carnegie Foundation for the Advancement of Teaching in 1910. His report on the Kansas Medical College was succinct and plagued with criticism. Flexnor highlighted the use of "improvised laboratories," poor storage of equipment, and overall lack of medical resources (books, charts, and models). However, his leading complaint focused on the quality of the current dissecting room. His primary concerns with the "indescribably filthy room" were the cadaver and the room's secondary use as a chicken yard. Concerning the cadaver, Flexnor had been told that the cadaver was being used as a private study by one of the professors, until the floor would be used by the students when the weather was cold enough for proper storage. This lack of current use of the room for curriculum teaching was also the justification given to Flexnor for the use of the embryology faculty to store chickens on the same floor as the cadaver. Flexnor explained while these poor conditions of the facility were concerning, the college would be wiped out by the new admissions requirement for a minimum of one year of prior college

work by prospective students. He then contests that the state university should hold the future of medical education in Kansas.^{9 10}

Not only is there documentation of Flexnor's views, but there are letters written by the doctors, that gave him tours, at both the Kansas Medical College and Christ Hospital as well. In a letter from McVey to P.K. Sanders, the president of Washburn College, he discussed his visit with Abraham Flexnor, addressing his concerns with how the visit went. Among these concerns were the inability to show Flexnor many of the locked-up apparatuses, his visit to the dissecting room and Flexnor's inability to visit all of the school and surrounding resources. He reassured Sanders that he told Flexnor what the college's needs were, along with the plans made to help these challenges. He further reassured Sanders that he gave Flexnor an explanation of the history of the college including Washburn's absorption of it, stressing that he gave no suggestion that the absorption process was in any way incomplete.¹¹ While McVey's letter highlighted many of the concerns that Flexnor discussed in his report, McVey's tone attempted to reassure Sanders that the visit went well rather than to suggest that Flexnor left with the perspective that he wrote in his report. Another letter discussing Flexnor's visit came from Dr. John McClintock, a surgeon at Christ's Hospital.¹² In his letter to McVey, now Dean of the Kansas Medical College¹³, he discussed Flexnor's visit to the operating room, hoping to let him view the facilities and equipment that was available to students from the college. McClintock also informed McVey that Flexnor visited a teaching clinic that was being delivered to upper-classmen from the college, but he did not visit many of the hospital's buildings that housed patients.¹⁴

A common complaint between the overviews of the two visits was Flexnor's inability to spend enough time to see the full capabilities of the learning environment provided by the Kansas Medical College and its affiliated hospitals.¹⁵ These complaints were common across the states after the report was released. The American Confederation of Reciprocating, Examining and Licensing Medical Boards, addressed these concerns in a letter written to the medical colleges across the states. The organization discussed complaints that visits were "inadequate, and conclusions as published unwarranted and that they fail to do justice to the Colleges mentioned in the reports, and hence are damaging and not helpful to some good colleges."¹⁶ As a result, the American Confederation of Examining Boards decided to

further investigate schools that were disappointed with their results.¹⁷

Among the schools disappointed with Flexnor's findings was the Kansas Medical College. McVey and his associates quickly went to work attempting to change the reputation that was sure to accompany the college if the results were found to be true. By July 1910, McVey had contacted the American Medical Association.¹⁸ In their response, the American Medical Association stated, "the council has paid little attention to the matter of university connection but has limited its investigation chiefly to the single point at issue: Is this college upholding proper standards and is it equipped to properly teach medicine?", presenting the council's purpose for reevaluating medical colleges after the Flexnor Report.¹⁹ This helped McVey understand the qualities the council would be looking for in their secondary report. It also allowed him to know that the educational curriculum and equipment would be the main attractions in their visit to the college. This is important because, even though Flexnor did not attest to the quality of curriculum, he was unimpressed with the facilities and equipment available at the Kansas Medical College. The Kansas Medical College would likely have to improve these qualities in order to prove themselves to the council.

McVey was not the only faculty member to attempt to reach out in support of the school. In response to a letter received from the college, T.C. Biddle, superintendent of the Topeka State Hospital, wrote to Dr. Matthew R Mitchell²⁰, expressing his opinion about the future of the Kansas Medical College. It can be assumed that this committee was designed to seek help from supporters, specifically those affiliated with the medical college, in order to improve their results from the Flexnor Report. This made Biddle's reply unexpected. In his response, Biddle claimed, "there is not a compelling demand for a medical college in Topeka at all and for that reason I do not believe that we can expect a great medical college here at a very early date." He continued to indicate the school's improper quality of available equipment, the "'pennywise' business administration of the medical department by the Trustees of Washburn College," and the mistake in purchasing the building the college was being housed in. Biddle expressed that his purpose was not to write a critical letter with pessimism included, but he did not see the current school being able to provide a "great medical college in Topeka."²¹

The dissatisfied opinion that Biddle alludes to about the medical college was not uncommon. The needs of the college were brought to its attention by William Righter²² in early 1909. In his letter to the committee of the Kansas Medical College, Righter suggested improvements in the relationships between faculty and students, proper equipment of the facilities, and increased attractiveness to the inside of the Kansas Medical College.²³ Another correspondence found in the same time period came from J.B. Tower.²⁴ Tower's response is similar to the preceding in that he believes the college would benefit from larger rooms and better appliances.²⁵ Another faculty member, J.E. Minney²⁶, addressed the committee, "appointed to investigate the condition and needs of the medical department."²⁷ This shows the college must have been previously aware of the issues that were brought to light by Flexnor and the American Medical Association. Further information showing the lack of preparedness of the college for the Flexnor Report was discovered in a letter addressed to many doctors associated with the Kansas Medical College by S.G. Stewart.²⁸ In this letter, also written in early 1909, he first states, "I do not believe the Medical College is progressing satisfactorily."²⁹ The format of these responses are similar in discussing the needs for improvement of the college in that they are written in a list format, perhaps responding to questions from a survey they were given.³⁰ While this makes understanding the context of some of their answers difficult, some statements are still understandable enough to warrant evidence of the faculties beliefs that the college needed improvement. McVey, still determined to improve the reputation of the college, received a letter in early 1911, acknowledging his request for reinspection and rating from the Medical Colleges of the American Confederation of Reciprocating, Examining, and Licensing Medical Boards.³¹ In this report, Carr alerted McVey that his request had been accepted and a sub-committee from Kansas had been assigned to his case.³²

While many efforts were made to fight for the school, in late 1912, Sanders and McVey presented a resolution concerning to the future of the medical college. They announced that Washburn would no longer offer a medical department at the end of the current school year. They also requested the rating be maintained through the end of the school year, allowing the senior class to graduate and to maintain the honor and history of the college.³³ Through the archives, two resolutions to close the school were discovered. While they were rela-

tively identical, the second discussed a recommendation for a merger with Kansas University, stating that the Kansas Medical College was unable to meet the expected standards.³⁴ Assisting in the decision was an announcement made by the Carnegie Foundation following the Flexnor Report stating only one medical college would reside in each state, making exceptions for larger states.³⁵ This provision along with the conclusions drawn from the Flexnor Report are reasonable explanations for the closure of the medical school.

While the Kansas Medical College only existed for twenty-three years, ten of which were in affiliation with Washburn College, the school left an impact on both the Topeka and Lawrence communities. For Topeka, relationships were made with area hospitals still used by Washburn University's allied health departments. While Washburn University, is not known for a medical school any more, it has a highly reputable school of nursing and allied health department. In Lawrence, the merger has turned into a highly respectable medical school nationwide, with strong relationships in both the Lawrence and Kansas City areas. While the modern version of the Kansas Medical College is nothing like it was more than a century ago, its roots now flow through the Washburn and Kansas University campuses.

Notes

- 1 The Association of American Medical Colleges helped to set standards in medical education, that would later be tested in the Flexnor Report. From: *Imparato, M. (1998). Washburn campus: Past & present. Washburn Alumni Magazine, 31.*
- 2 The three-year study requirement made by the college was different from the typical two-year requirement at other medical colleges across the United States. From: *Imparato, M. (1998). Washburn campus: Past & present. Washburn Alumni Magazine, 31.*
- 3 *Imparato, M. (1998). Washburn campus: Past & present. Washburn Alumni Magazine, 31.*
- 4 Clinical affiliations included Stormont Hospital, Sante Fe Hospital, the State Hospital, Christ's Hospital, Bethesda Hospital, and would be affiliated with St, Francis after it opened. From: *McVey, W. E. (1910, February 02). [Letter to F.K. Sanders]. Washburn Archives, Topeka, Kansas.*

5 In an article written in the Washburn College Bulletin shortly after the merger, it emphasizes Washburn's ability to "amply meets the requirements of the Associations of American Medical Colleges" From: Washburn University. (1902, August). *The Merger*. Washburn College Bulletins, II, 11-12.

6 Flexnor was reporting for the Carnegie Foundation. He was not a medical physician but was qualified to attest to the quality of the programs. The need for the report rose as medical programs increased with little to no training of faculty, as well as no nationwide set curriculum. Flexnor reported on the quality of teaching, resources available, quality of facilities, and entrance requirements. From: Flexner, Abraham (1910), *Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching* (PDF), Bulletin No. 4., New York City: The Carnegie Foundation for the Advancement of Teaching.

7 The only instructors with keys to the locked apparatuses were those that used them. There was no master key. From: McVey, W. E. (1910, February 02). [Letter to F.K. Sanders]. Washburn Archives, Topeka, Kansas.

8 Flexnor was traveling by train and had to leave at 1:20 pm, after arriving at the Medical College a little after 10 am From: McVey, W. E. (1910, February 02). [Letter to F.K. Sanders]. Washburn Archives, Topeka, Kansas.

9 The State University in question is Kansas University. From: Flexner, Abraham (1910), *Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching* (PDF), Bulletin No. 4., New York City: The Carnegie Foundation for the Advancement of Teaching.

10 Flexnor's Report was quickly responded to by the American Medical Association, as the Kansas Medical College received a letter from them in January 1910, asking for representation at a meeting to discuss the future of medical education. Through my research I did not find a response from the college stating whether or not a member of the college attended the meeting, but this shows the immediate effort that the American Medical Association felt was necessary to improve the quality of medical education across the United States. It also shows its fairness, in its attempt to invite members from each college to discuss how the standards would change, allowing everyone to have input. Letter source: Zapffe, F. C. (1910, January

24). [Letter to Dr. William E. McVey]. Washburn Archives, Chicago, Illinois.

11 McVey, W. E. (1910, February 02). [Letter to P.K. Sanders]. Washburn Archives, Topeka, Kansas.

12 John McClintock was also listed as a member of the Kansas Medical College faculty. From: Washburn University. The Kaw 1909 Yearbook. Topeka KS: University Archives, Mabee Library.

13 Washburn University. The Kaw 1910 Yearbook. Topeka KS: University Archives, Mabee Library.

14 McClintock, J. C. (1910, February 28). [Letter to W.E. McVey]. Washburn Archives, Topeka, Kansas.

15 In a letter from T.C. Biddle, President of the State Hospital, to McVey, he tells McVey that neither Flexnor or any of his affiliates visited the hospital to discuss clinical teaching, facilities or equipment. From: Biddle, T.C. (1910, March 14). [Letter to Dr. W.E. McVey]. Washburn Archives, Topeka, Kansas.

16 Spurgeon, W. (1910, November 21). [Letter to Dean of the Kansas Medical College]. Washburn Archives, Muncie, Indiana.

17 Conducting differently than Flexnor, the organization asked the schools when they would be in session in hopes to attest to the educational value. Spurgeon, W. (1910, November 21). [Letter to Dean of the Kansas Medical College]. Washburn Archives, Muncie, Indiana.

18 It is important to note that the initial letter that sparked correspondence from McVey is not in the archival records, so any conclusions drawn are solely from the response from the American Medical Association.

19 Colwell, N. (1910, July 20). [Letter to Dr. W.E. McVey]. Washburn Archives, Chicago, Illinois.

20 Dr. Mitchell's credentials can be verified as a member of the faculty from Washburn University. The Kaw 1909 Yearbook. Topeka KS: University Archives, Mabee Library, and his position as a chairman can be verified from the letter Biddle, T. (1910). [Letter to Dr. M.R. Mitchell]. Washburn Archives, Topeka, Kansas.

21 Biddle, T. (1910). [Letter to Dr. M.R. Mitchell]. Washburn Archives, Topeka, Kansas.

22 Righter was a faculty member of the college according to Washburn University. The Kaw 1909 Yearbook. Topeka KS: University Archives, Mabee Library

- 23 Righter, W. H. (1909, January 17). [Letter to Kansas Medical College, to the Committee]. Washburn Archives, Topeka, Kansas.
- 24 Tower's association as a member of the Kansas Medical College's faculty can be verified by Washburn University. The Kaw 1909 Yearbook. Topeka KS: University Archives, Mabee Library
- 25 Tower, J. (1909, January 10). [Letter to Dr. Mitchell]. Washburn Archives, Topeka, Kansas.
- 26 Minney was a faculty member of the college according to Washburn University. The Kaw 1909 Yearbook. Topeka KS: University Archives, Mabee Library
- 27 Minney, J.E. (1909, January 28). [Letter to Committee of the Faculty of the KMC]. Washburn Archives, Topeka, Kansas.
- 28 Stewart's association as a member of the Kansas Medical College's faculty can be verified by Washburn University. The Kaw 1909 Yearbook. Topeka KS: University Archives, Mabee Library
- 29 Stewart, S. (1909, January 06). [Letter to M.R. Mitchell, C.P. Davis, C.F. Menninger, Committee]. Washburn Archives, Topeka, Kansas.
- 30 This is important because if a survey was given asking the faculty their opinion on the quality and progression of the medical college, it insinuates that the college was aware that the issues may have existed, making the Flexnor Report results less shocking.
- 31 This organization had previously agreed to complete an inspection, however, to reduce costs, the committee suggested that the institution seeking the reinspection may be asked to spend up to \$50 in aiding in the costs of expenses incurred by the organization. This may have placed more of a financial strain on any colleges that agreed. Spurgeon, W. (1910, December 03). [Letter to W.E. McVey]. Washburn Archives, Muncie, Indiana.
- 32 Carr, E. (1911, January 23). [Letter to Dr. Wm. E. McVey]. Washburn Archives, Lincoln, Nebraska. While there is no documentation of the results from this reevaluation, or if it ever occurred, the conclusions of the findings and fate of the medical college are more significant than the results this specific inspection found.
- 33 Both of these requests were granted. Sanders & McVey. (1912, October). Resolution.
- 34 Kansas Medical College Office of Dean. (n.d.). Resolutions.

35 Abandon Kansas Medical College. (1913). Neither an author nor newspaper affiliate were found with the archival material

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Natural and Social
Sciences

Essays

The Effects of Conspiracy Exposure on Politically Cooperative Behavior

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Category Winner *Natural and Social Sciences*

Over the past decade, the amount of theoretical contributions and empirical research published on the topic of conspiracy theories has drastically increased (Van Prooijen & Douglas, 2018). Human behavior is complex, unpredictable, and a focal point within nearly all psychological research. Recent research has shown that political attitudes may produce biases in how individuals organize and store incoming information (Ajzen, Fishbein, Lohmann, & Albarracin, 2018), as well as by media messages targeting those particular political attitudes (Martino, Setodji, Dunbar, Gong, & Shadel, 2018). Such effects on information processing, along with social norms (Lehmann & Gorsuch, 2017), may in turn change an individual's behavioral intentions (Martino et al., 2018).

Consistent with this literature on the effect of beliefs and attitudes on behavior, conspiracy literature also reveals that belief in conspiracies impact behavioral intentions (Butler, Koopman, & Zimbardo, 1995; Hoyt, et al., 2012). Recent research published by Jolley and Douglas (2014a; 2014b) even demonstrated a causal relationship between conspiracy exposure and low intent to engage in political activities. These findings provide further support for the indication that conspiracy theories themes directly relate to their real-

life behaviors, such that politically themed conspiracy beliefs directly influence intention towards political behavior (Butler, Koopman, & Zimbardo, 1995; Jolley & Douglas, 2014a; Jolley & Douglas, 2014b). More recently, however, the possibility of a “conspiratorial mindset” has been identified, in which certain conspiracy theories additionally affect behavior outside their immediate domain due to their cognitive connections (Jolley & Douglas, 2014a; Van Prooijen & Douglas, 2018). For example, environmentally themed conspiracy theories specifically addressing climate-change negatively affect political behavior intentions, as well as intentions towards environmentally responsible behavior (Jolley & Douglas, 2014a). This finding clearly demonstrates the potentially breadth of conspiratorial consequence and shines even more light on their contagious and impactful nature.

Overview of Current Study

While the current collection of conspiratorial research has clearly supported the existence of behavioral consequences to conspiratorial ideology (Butler, Koopman, & Zimbardo, 1995; Hoyt et al., 2012; Jolley & Douglas, 2014a; Jolley & Douglas, 2014b), additional results seem inconsistent and in need of continued analysis. Theoretically, many have discussed the adaptive role of conspiracy theories in increasing political transparency (Clarke, 2002; Hustling & Orr, 2007; Bale, 2007), and the potential for pro-social behaviors to stem from conspiratorial suspicion (Jolley & Douglas, 2014b; Van Prooijen & Douglas, 2018). However, research conducted by Van Der Linden, (2015) demonstrated a decrease in pro-social behaviors post conspiratorial exposure.

While some research have shown conspiracy belief to correlate with an increased support for democratic principles (Swami, Chamorro-Premuzic, & Furnham, 2010; Swami, Coles, Stieger, Pietschnig, Furnham, Rehim, & Voracek, 2011), others have conversely shown conspiracy ideologies to correlate with political cynicism (Swami, et al. 2010; Swami et al. 2011), increased political extremism (Van Prooijen, Krouwel, & Pollet, 2015), and decreased public support for political policies (Van Prooijen & Douglas, 2018). This opposition is perhaps most evident within a study conducted by Butler, Koopman, and Zimbardo (1995), where exposing participants to a specific political conspiracy was observed to have a vastly negative impact on reported political intentions, while having a significantly positive impact on intentions towards becoming more politically informed. Although

these results do imply a behavioral consequence by means of political disenfranchisement, they also support an inspired sense of personal political responsibility, both resulting from conspiracy exposure.

Van Prooijen and Douglas (2018) discuss the importance of better understanding these seemingly contradictory connections within their review of conspiratorial literature. The present study clearly identified two distinct categories of political ideologies and conspiratorial ideologies in an attempt to discover if the discrepancy in the observed positive and negative conspiratorial correlations is due to a lack of distinction between individual ideologies within previous research (Bale, 2007; Huzarevich & Hockett, 2015; Shontz & Hockett, 2018). Perhaps, by separating these ideologies, correlated results will parallel in their separation, with more positively based attributes belonging to one conspiratorial/political belief, and more negative attributes belonging to the other. Specifically, the present study utilized a conspiratorial classification system separating conspiracy theories into two categories; classic conspiracy beliefs and real conspiratorial political beliefs.

Classic conspiracy beliefs (CCB) comprise a more paranoid style of thinking that does not rely on evidence and is non-falsifiable, whereas its dichotomous alternative, real conspiratorial political beliefs (RCPB), reflects a more dialogical ideology, is willing to abandon belief in the presence of contradictory evidence, or absence of supporting evidence, and is falsifiable (Bale, 2007; Huzarevich & Hockett, 2015; Shontz & Hockett, 2018). While many different conspiratorial classification systems have been proposed within the conspiracy research field (Basham, 2003; Barkun, 2013; Keeley, 1999; Walker, 2013), the researchers believe that the CCB/RCPB separation encompasses the most fundamental classification points, while still remaining broad enough to allow most, if not all, conspiracy beliefs to be distinguished within it, regardless of temporal existence (Shontz & Hockett, 2018). To continue the trend of separating participant conditions through individual ideologies, the researchers also include political affiliation as an independent variable, requesting that participants self-report political affiliation as part of the methodology.

The dependent variable within this study is politically cooperative behavior. However, to properly examine thorough expression of political cooperation, the present study focused primarily on two corresponding behaviors- political/electoral behavior and civic/

prosocial behaviors. The inclusion of both political behavior intention measures, and civic behavioral measures was determined necessary based on a large-scale analysis of political participation suggesting the avenue in which political voice is being expressed is shifting from electoral behaviors, to more civically based, prosocial behaviors (Jenkins, Andolina, Keeter, & Zukin, 2003). Additionally, a similarity between prosocial behavior and civic behavior was recognized by the researchers prior to the initiation of the study. Within psychological literature, prosocial behavior is often defined to reflect a broad range of actions that are ultimately intended to benefit others rather than oneself (Batson & Powell, 2003). This definition is similar in nature to the political science understanding of civic behavior, which is defined as any activity focused on problem solving and helping others, whether formally or informally organized (Jenkins, Andolina, Keeter, and Zukin, 2003). Therefore, to bridge this multidisciplinary gap, the present study combined civic and prosocial behavior to create a measure that is both exhaustive and relevant to the current investigation.

The ultimate goal of the present study is to gain a clearer understanding of the role political affiliation plays within the behavioral impact of varied conspiratorial exposure, while still taking into consideration the increased tendency towards prosocial/civic behavior over political/electoral behavior within younger age cohorts (Jenkins, Andolina, Keeter, and Zukin, 2003). By combining replicated methodologies (Jolly & Douglas, 2014a; Jolley & Douglas, 2014b) with recent research's theoretical gaps and necessary empirical extension, the researchers have offered novel hypotheses for the present study.

Hypothesis 1: Exposure to either conspiratorial comments will decrease political behavior intentions, regardless of political affiliation.

Hypothesis 2: The greatest decrease in political behavior intentions will be seen within the Republican-leaning condition.

Hypothesis 3: Exposure to classic conspiracy belief (CCB) comments will decrease intention towards prosocial behavior within the Republican-leaning condition.

Hypothesis 4: Exposure to real conspiratorial political belief (RCPB) comments will increase intention towards prosocial behavior within the Democratic-leaning condition.

Method

Participants

This study was carried out as a course required project for undergraduate psychology students at a small midwestern university. Surveys were made available via a free to use online survey platform. All participants within the study were given access to the same online links and study materials. The convenience sample of participants was collected anonymously and at random via two pathways. First, the survey was made available to a pool of students currently enrolled in one of several undergraduate level courses hosted at the same university as the researchers. To access the link, some participants were required to log in to the online course management system at Psychology Department's Mastery Lab, where participation was collected and monitored by graduate student lab assistants for grading purposes. This unaffiliated guidance provided by lab assistants allowed participation in the study to remain completely anonymous to the researchers. Other participants accessed the links via an email that was first provided to instructors by the researchers, and then forwarded on to course students by instructors. All students received course credit upon completion of the survey. The researchers were not involved within any course credit processes as it conflicted with the anonymous participation. The survey was also made available to participants via one of the researcher's social media platform. Using the same introductory text to describe the study as was used within the course emails, this researcher posted all survey links on their personal Facebook profile for semi-public access.

At conclusion of the study, 111 had participated, 36% males and 41% females. The majority of participants were Caucasian (59.5%) and self-reported a Christian religious affiliation (45.9%). Participant reported education status was widely distributed. Although the majority of participants reported class year as senior (20.7%), a comparable number of participants reported class year as sophomore (17.1%), and "Not Applicable" (16.2%). The researchers believe this is most certainly due to the inclusion of social media as a means to gather study participation.

Participants were first sorted into their subscribed political affiliation, either Democratic Leaning or Republican Leaning, and then quasi-randomly assigned to one of the remaining conspiracy exposure conditions: classic conspiracy belief (CCB) exposure, real

conspiratorial political belief (RCPB) exposure, or neutral exposure, depending on which of the survey links the participant selected. At the conclusion of the study, of the 43 Democrats, 11 were exposed to CCB, 16 were exposed to RCPB, and 16 were exposed to neutral comments. Of the 35 Republicans, 15 were exposed to CCB, 15 were exposed to neutral comments. Due to time constraints, only 5 Republicans were exposed to RCPB. No data sets were deleted during or after data collection. All variables, research hypotheses, measures and statistical analyses were preregistered with AsPredicted.org prior to data collection. A preregistration report is available upon request. All participants were treated fairly and in accordance with the ethical principles provided by the American Psychological Association, and the study was approved by the university's Institutional Review Board.

Materials

Political Affiliation. In this study, political affiliation was defined as either Republican-leaning or Democratic-leaning. When accessing the online survey, participants were asked to self-report their political affiliation by clicking on one of the survey links that best represented their personal political beliefs: either Democratic-leaning or Republican-leaning. This self-report effectively pre-sorted participants into political affiliation groups prior to accessing other measures within the survey. Other political affiliations, including libertarian, communist, socialist, green, and a/nonpolitical party affiliation were not mentioned, nor measured as part of this current study.

Conspiratorial Beliefs. To measure the two contrasting conspiratorial beliefs utilized within the present study, three comments lists were created by the researchers using conspiracy theory items derived from a measure previously used to test general tendency towards conspiratorial beliefs for classic conspiracy beliefs (CCB) and real conspiratorial political beliefs (RCPB); (Hockett, Shontz & Hansen O-Neil, 2019). Both the CCB and RCPB list contained five conspiratorial comments, rephrased by researchers to reflect a consistent nature of commentary, whereas the control list contained five neutral comments containing semantic political/economic/social facts. Participants were randomly assigned comment exposure through presentation of study links, which were presented to participants in bulk and without any additional information, allowing participants to blindly select their condition through picking a survey link.

Political Intention. This variable is included for the purpose of replicating and extending specific conspiratorial research conducted by Jolley and Douglas (2014a; 2014b). The present study measured political intention using the Political Intentions Measure (PIM), a measure created by the researchers for the purpose of this study, and references the Electoral Behaviors Measure, and the Political Voice Behaviors Measure created by Jenkins, Andolina, Keeter, and Zukin (2003), as well as the intended political behaviors scale employed by Jolley and Douglas (2014a).

Civic/Prosocial Behavior. For the purposes of additionally narrowing the measure of prosocial behavior, the researchers limited prosocial measurement to *if* people intend to be prosocial, rather than *how* individuals may intend to behave in a prosocial way. The present study measured prosocial intentions using the Intentions Towards Civic Behavior Measure (ITCB), a measure created by the researchers for the purpose of this study, and references the civic behaviors measure created by Jenkins, Andolina, Keeter, and Zukin (2003), as well as the certain items within the intended political behaviors scale employed by Jolley and Douglas (2014a).

Design and Procedure

Once IRB approval was received, surveys materials were made public to participants. After being sorted into their subscribed political affiliation (Democratic-leaning or Republican-leaning), participants were quasi-randomly assigned to one of the two conspiratorial conditions or the control condition. Using a between-subjects research design, each condition was equally represented between both political groups. Therefore, an approximately equal number of participants within either political category was exposed to the conditions. Participation was completely anonymous.

After selecting the link that aligned with the participants political party, all participants, regardless of political affiliation, were first taken to the informed consent page. Once completed, all participants were asked to respond to demographic items, including age, gender identity, race, religious affiliation, and education level. Participants were then asked to rate their political position using a quantified Very Liberal (1) to Very Conservative (7) scale on the topics of foreign policy, economic and social issues. After completing demographics, participants were then exposed to a list containing five classic con-

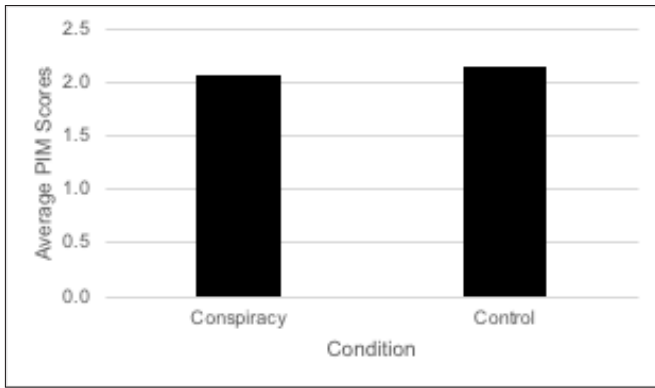


Figure 1. *Effects of conspiracy exposure on PIM, as compared to control group*

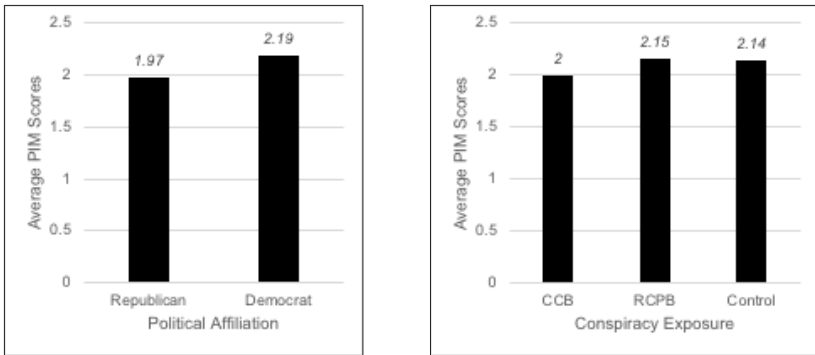
spiratorial comments, real conspiratorial political comments, or neutral semantic comments. Participants were instructed to read all five comments carefully before continuing to the next portion of the study, which contained, in order, the Ten-Item Personality Inventory (Gosling, Rentfrow, & Swann, 2003) used as a filler measure, the PIM measuring political intention, and the ITCB measuring civic behavior (See. Once participants completed the three measures, they were directed to the debriefing page where they were fully informed on the purpose of the study, as well as provided with contact information for the three researchers, and a general statement of gratitude.

Results

Hypothesis 1 & 2. Hypothesis one posited that exposure to either conspiratorial comments would decrease political behavior intentions, regardless of political affiliation. Hypotheses two expanded on this expectation by further suggesting that the greatest decrease in political behavioral intentions would be seen within the Republican-leaning condition.

To test the first hypothesis, an independent sample t-test was conducted. Because political leaning had a correlation with Political Intentions Measure (PIM), we controlled for that interaction by including PIM as a covariate. As shown in Figure 1, results of the t-test showed no significant difference between control versus conspiracy theories conditions on political intention, $t(76) = -.68, p = .499$.

The researchers ran a factorial analysis of variance (ANOVA) to



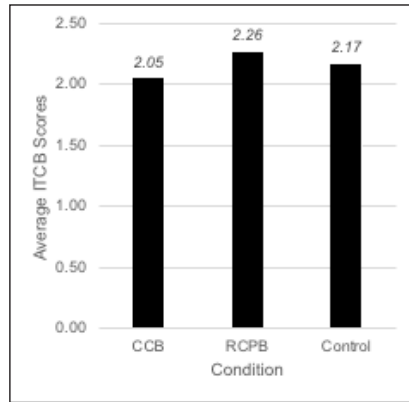
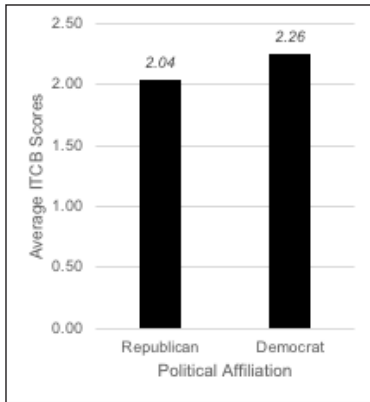
Figures 2 & 3. Effects of political affiliation and conspiracy exposure on PIM

examine the effect of exposure to conspiracy theories and political affiliation on average PIM scores. Unfortunately, there was no significant effect between political affiliation and PIM, $F(1, 71) = 1.45, p = .232$ (shown in Figure 2), nor was there a significant effect found between exposure to conspiracy theories and PIM, $F(2, 71) = .709, p = .495$ (shown in Figure 3).

Hypothesis 3 & 4: Hypotheses three and four concerned conspiracy exposure and its impact on civic behavior intentions. It was hypothesized that exposure to classic conspiracy belief (CCB) comments would decrease intention towards civic/prosocial behavior within the Republican-leaning condition, while increasing these same intentions within the Democratic-leaning condition.

The researchers ran a factorial analysis of variance (ANOVA) to examine the effect of exposure to conspiracy theories and political affiliation on average Intentions towards Civic Behavior (ITCB) scores. Unfortunately, there was no significant effect between political affiliation and ITCB, $F(1, 71) = 2.04, p = .158$ (shown in Figure 4), nor was there a significant effect found between exposure to conspiracy theories and ITCB, $F(2, 71) = 1.567, p = .216$.

Additional Results. An additional exploratory analysis was conducted to investigate a potential relationship between participants' average self-reported political position on foreign policy, economic, and social issues, and general intended behavior as reported within both PIM and ITCB measures. A Pearson's Correlation analysis showed that the PIM and ITCB were not intercorrelated, confirming that both forms of cooperative behavior had been successfully defined



Figures 4 & 5. Effects of political affiliation and conspiracy exposure on ITCB

and measured as separate constructs. The analysis also showed a positive relationship between political behavior intention and intention toward civic behavior ($r = .411, p=.00$) (Table 1, page 21). The moderate strength of this relationship supports its generalizability. Further examination showed political position scores to be negatively correlated only PIM, indicating lower scores of politically intended behaviors correlating stronger with more conservative political positions. No significant relationship was found between political position scores and ITCB. While the negative correlation between PIM and political position scores were low, it was still significant, and therefore, also generalizable.

Table 1

Pearson Correlation for Political Leaning-Status and Intended Behavior

	PIM	ITCB	Political Leaning
PIM	—		
ITCB	.411**	—	
Political Leaning	-.240*	-.185	—

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Discussion

In the present study, behavioral consequences to two types of conspiratorial ideologies were investigated. The researchers separated participants via political affiliation to gain a clearer understanding of how conspiracy theories impact individuals with different political viewpoints. Measured within the present study were two specific types of politically cooperative behavior: political/electoral behavior and civic/prosocial behavior. This separation was included to account for a variety of currently supported political engagement techniques (Jenkins, Andolina, Keeter, & Zukin, 2003). Unfortunately, the analyses conducted did not produce support for any of the researchers four hypothesis. These results differ from supporting literature, specifically within their lack of significant findings of a general behavioral consequence to conspiratorial exposure. While the methodology of the present study differed from past research in its separation of conspiratorial ideologies, and thus, conspiratorial exposure to participants, when analyses were conducted to examine both conspiratorial exposure conditions in comparison to control conditions, no significant difference in PIM scores were observed.

Theoretically, the conflict within results of the current study in comparison to results of supporting literature could be due to how participants were exposed to conspiratorial ideologies. Conspiratorial exposure within research conducted by Douglas and Jolley (2014a) was composed around one central theme and included only information supporting conspiracy theories regarding one central conspiracy theories. Similarly, Hoyt et. al (2012) measured conspiracy beliefs using a measure which captured tendency towards belief in only HIV/AID conspiracy theories, and Butler et. al (1995) experiment heavily relied upon participants viewing a conspiratorial media message about the assassination of JFK. Conversely, the present research methodology did not include consistency or focus within conspiratorial items on either CCB or RCPB measure. Rather, both measures included five items of variation in theme and focus. Perhaps replication of this present study should pay closer attention to the reliability of conspiratorial items within the exposure conditions.

Another possibility concerning the present study's nonsignificant findings could lie within the length and amount of exposure. Butler et. al (1995) designed their research around a docu-drama film which is approximately three hours and 26 minutes. Similarly, Douglas and

Jolley (2014a) exposed their participants to a full article including conspiratorial explanations of either a pro-conspiratorial or anti-conspiratorial nature. Perhaps these exposures were lengthy enough to induce more dramatic priming effects within participants. Conversely, participants within the current study were exposed to a five-item list, with each item containing one sentence of conspiratorial information. Therefore, it is possible that the length and amount of exposure was insufficient.

Although the present study was unable to support any of the hypotheses, it should be noted that results did show consistent trends in the hypothesized direction. For example, the analysis of hypothesis two, examining the effects of conspiracy theory exposure and political affiliation on Political Intentions Measure (PIM), produced a lower average score for Republicans in comparison to the Democratic participants. Similarly, the two-way ANOVA analysis of hypothesis three and four, and intentions towards civic behavior, produced an average total for Democratic participants that was notably higher than the Republican party, though the difference was not enough to produce a significant outcome. Overall, these results support the importance for replication of the present study, with more attention paid to conspiratorial exposure conditions, and perhaps a larger participation sample.

Limitations and Future Research. The researchers have agreed that the primary limitation of the current study was its presence as a course required project for undergraduate psychology students at a small midwestern university. Not only did this provide limitations within experimental design, but also within the required time frame of experimental execution. Due to the time constraints, the researchers were unable to gather the desired number of participants within one of the conditions (i.e. Republican exposure to RCPB). It is possible that low participation within this condition skewed or altered final data analysis. Additionally, the researchers wonder what role environment played within participant reports. It was previously noted that a portion of participants were required to take the survey within a controlled environment on campus, while another portion of participants were allowed to take the survey in whatever atmosphere they wanted to, including their personal residence, in public, or perhaps at their place of employment. Participants within the controlled environment accessed the survey through a desktop computer, while participants within the uncontrolled environment had the potential to access the

survey through a wide variety of technological instruments, including persona desktops and laptops, tablets, even personal cellular devices. While it is unknown exactly what role this variation in atmosphere may have played within participant responses, or what confounding variables may have paralleled, the researchers deemed it theoretically impactful enough to include within this section. Replication of this research will want to consider providing a consistent atmosphere to all participants.

Lastly, the researchers question the accuracy of participants self-report within the present study. The goal of this study was to separate participants into their respective political affiliation groups, in an effort to more appropriately examine various effects of conspiratorial exposure on intended behavior. While all participants did effectively separate themselves into political affiliation groups, the researchers wonder how accurately self-selection was done.

Finally, considering the high prevalence rates of conspiracy belief within Western society (Oliver & Wood, 2014), along with the strength of empirical support for a conspiratorial behavioral consequence, future research on conspiracy theories should take one of two pivotal directions. Firstly, it would be of benefit to further examine a practical conspiratorial classification system. Such structure of conspiratorial content will enable a more thorough understanding of the potential differences within the behavioral impact of conspiracy theories (civic/prosocial reactions vs. political disenfranchised). Secondly, and equally important, is the examination of successful conspiratorial inoculation methods (for more information see Banas & Miller, 2013). Conspiratorial researchers have been an integral part in the increased depth of understanding concerning conspiracy theories and the people who believe them and should be an equally integral part in assisting with examining what can combat them. Much like the hypocrisy paradigm created to examine cognitive dissonance (Fried & Aronson, 1995), researchers should refocus their energy into objectively and accurately defining conspiracy theories in order to create an effective methodology that can appropriately dispel harmful and maladaptive conspiracy theories. If no such paradigm is possible, that information would be equally as important to developing a well-rounded and thorough understanding of conspiracy theories. The researchers hope that, by communicating their theoretical background, methodology

and results, future research can also include some of the novel elements applied within the present study.

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When Her Beauty Blooms II

Janet Zoble



A New Major is Born: The Life of Computer Science at Washburn University

Alex Montgomery

Introduction

Computer science is the study of the principles and use of computers. This study covers a wide range of applications from operating systems to software engineering. Contemporary computer science has been around since 1936 with the creation of the Universal Turing machine, the first modern computer concept. The first electronic digital computer was created 1939 by John V. Atanasoff and Clifford Berry. Today, the study is known to be one of the most innovative and relied upon due to the new applications and concepts being developed. Many people own smartphones, laptops, TVs, and other digital devices and all these gadgets were created using computer science concepts. From the Turing machine, computer science has grown into the powerhouse of the world. Over time, concepts have been optimized and new ones have been born. This paper is centered at the growth of Washburn University's computer science program, from the first class offered in the 1960s to the major in 2019.

1960s – The Beginning

The first breath of computer science teaching was in 1964, according to Washburn's 1964-1965 Course Catalog. The course catalog is

designed to showcase all potential classes for each degree separated by disciplines. It is the student's program for the years covered by the catalog. The course offered was Digital Computer Techniques as a Math course, MA 270. It was advertised as an intro to digital computers and punch card equipment with programming for high speed computers. For the time, this was the only type of programming traditionally used by the public. Punch card programming involved using physical cards, punching holes into them, and then feeding them into a computer to create a program. This program wasn't permanent as the memory in the computers was restricted to a number of digits, so the cards became the program. Today it would be very unusual to have a computer program in a physical form of cards. There was also a business Data Processing course and non-credit evening courses offered to educate students on the use of this punch card programming. This trend of classes offered continued throughout the 1960s into 1973.

Washburn created its first "computer department" in 1963 located in Stoffer Hall. This department was not academic, rather provided an application of computers on campus. The main use of this department was for students and faculty with programming punch-card needs: programming for classes, signing up for classes via punch cards, and faculty project keys. *The Washburn Review* wrote an article in 1968 about Washburn's investment in computers, detailing the hardware and uses of these computers. The article mentions the two computer systems used in the department, an IBM 1620 and an IBM 1130, located at this time in Morgan Hall's basement. The cost for these two computers was \$60,000 and \$40,000 respectively. These were the state of the art and during this time, it was expensive to have the newest system. The IBM 1620 had a storage of 40,000 digits with the 1130 at 500,000 digits. That is approximately five kilobytes and 62.5 kilobytes respectively, since eight digits are in a byte. A typical photo from a camera phone today is around four megabytes, 65 times bigger than the max storage on the IBM 1130.

The uses for these computers was widespread across campus departments. During the publishing time of the article, the English department was utilizing these computers to compare different versions of Shakespeare plays. The Registrar used the IBM 1620 to calculate the grades of students quicker, automatically updating the student's classification code, i.e. freshman, sophomore, etc. This

improved the speed drastically, saving hundreds of working hours.

The use of computers proved to be worthwhile, saving hours of labor and the cost to have such labor as well. This prompted for a larger demand of digital computing, pushing a need for more education in this sector. Following the rookie decade of computing, computer science got a boost from education, expanding its horizons ten-fold in the 1970s.

1970s – The First Shift

Computers were starting to become more involved in daily society throughout the early seventies, with the first personal computer available in 1975. With this technology coming to fruition, there needed to be an increase in people able to create, manage, and troubleshoot it. In response to this influx of demand, education for computer science had to be added. The number of computer courses offered at Washburn was minimal for its potential, but that all changed in 1973 with the release of the 1973-1975 Course Catalog.

In the Washburn Course Catalog for 1973-1975, there was no computer science major or associate degree. This catalog marks one of the first records in Washburn's history to offer an emphasis in computer science, the first major shift in more education for computer science. This emphasis was an addition to the Mathematics major which previously only had two types of the major, Bachelor of Arts and Bachelor of Science. In the new curriculum, there were two additional majors added, Bachelor of Arts or Science with an emphasis in Computer Science. The requirements for the new majors were at least fifteen credit hours of computer science courses level 150 and above. Along with this change, there was a new requirement put in place for a Bachelor of Science in Mathematics: Computer Science 170, also known as FORTRAN Programming.

Computer science courses were treated differently in the seventies. Since the major was a Mathematics major, certain computer science courses could be counted towards math credits, even upper division math credits. With this implementation of credits, it seems apparent the school wanted to push out this type of education by offering incentives to those willing to learn the new science. Of the upper division computer science courses, only two of them required upper division math credits as prerequisites. Theoretically, a student could take 13 out of 15 of upper division and 12 of 30 of lower division

math credits as computer science courses.

The Washburn Course Catalog for 1973-1975 does represent a type of intellectual discrimination towards students wanting to take part in this emerging field. The only way to obtain a title of a computer scientist is to be good or able to be good at Mathematics. Many of the courses required for the degree would not be beneficial towards the computer science learning, only the math portion. Many of the computer science courses only require a knowledge of college algebra. Henceforth, it was limited to students capable of performing math at a high, complex level. Comparing it to today's computer science degrees, one could bypass the high-level math requirements by working towards a Bachelor of Arts. This allows more students the ability to pursue a degree in computer science and prevent the limitation for people who are unable to complete complex math courses.

These computer science courses were targeted at women, according to Barker (2019). With the new technology of programming and data processing coming into businesses, the demand for people with these skills grew. Many women, especially those who were secretaries for lawyers, business, and accountings firms, were pushed to learn the new way of data management in order to stay with the modern trends. If a woman was applying for a job requiring data processing, having computer skills gave the applicant a significant advantage over others.

The computer science courses offered in the seventies brought a light into how advanced the field was. There were only four programming languages offered: two involving business applications, RPG and COBOL; one involving digital computers, FORTRAN; and one involving the understanding of a computer's actions on an intricate level, Assembly. Only Assembly is still required for education in computer science today, the rest are considered outdated languages. Of the courses offered in 1973-1975 catalog, three of them are still offered in the course catalog today.

1973 was the year for computer science at Washburn University, marking the first major shift in additional education, but the fame wouldn't last for long. In the Washburn Course Catalog of 1975-1977, an Associates of Arts degree in Computer Science was added. The location of the degree remained in the Mathematics department; however, the math courses required decreased. Majors only had to take three math courses for the two-year degree. The computer courses required

for the Associates were identical to those of the Emphasis with added general education credits, primarily in business and economics.

This new degree opened the door to a significantly bigger pool of students. The intellectual limitation mentioned previously had been taken care of. Students from all backgrounds and interests were able to take advantage of this emerging field. No longer was math a forefront of the learning. The main focus became computer, economic, and business courses. The new degree brought an influx of new students and the computer labs were constantly being used. According to Barker (2019), a majority of the lab time was utilized by computer students.

Over time, other departments started to take interest. The Washburn School of Business started to take part in the computer science trend. They began to accept data processing courses as part of their curriculum. There was an option to get a business degree with a specialization in computer science. Provided a table of courses, students were required to take at least 36 credit hours of the courses listed. This allowed even more students to engage in computer science courses. From the College of Arts and Sciences to the School of Business, Washburn was planting the seed of computer science, letting it grow into what would lead into the final big shift.

1980s – The Second Shift

As society progressed, Washburn had to stay in touch with demand. Technology was becoming more advanced by the day and new educated graduates were needed to create and troubleshoot. Washburn made the move in 1983 to offer a major in computer science. In addition, a new department was formed, the Mathematics and Computer Information Sciences department, located in Morgan Hall. All potential 22 computer science courses were taught by math professors, most of whom were women.

There were three degrees offered, two Bachelor's and one Associate, with the Bachelor's granted the option of a Science or Arts: Bachelor's in Computer Information Systems, Bachelor's in Computer Science/Mathematics, and Associates in Computer Information Systems. The Computer Information Systems degrees were focused on preparing students for a programmer or analyst position for commercial businesses. If a student wanted to go into an application of research for computer science, they were prompted to earn the Com-

puter Science/Mathematics degree.

Each degree was critical in learning the state-of-the-art programming languages. There were five languages offered and each computer science student, regardless of degree, was required to learn at least two. COBOL was primarily pushed by advisers in the eighties because local businesses in Topeka were built off that language. Neighboring schools Kansas State University and University of Kansas pushed for FORTRAN and BASIC respectively. Graduates from these universities had trouble finding a job in the Topeka area, but Washburn students were hired the day of graduation. Washburn has always pushed for students to learn the programming language cannon to Topeka.

Of course, the demand for computer science classes was not limited to those in the major. Many departments on campus required students to learn computer skills and techniques as part of the well-rounded education guaranteed at Washburn University. Barker (2019) spoke about how students from all studies were using the computer labs. English professors were asking students to type up their essays on a computer rather than a typewriter, filling up the computer lab schedule.

Washburn was very ambitious previous to the announcement of the computer science major. In 1982, the university tried to become the second university in the United States to utilize the Decision Information Display System (DIDS), per the Washburn Review (1982). This is a bold move on behalf of Washburn because no other university had requested to use it. The only other intuitions to use this system was the University of South Carolina and the White House. The DIDS pulled information from the Bureau of Labor Statistics, the Department of Energy, the Economic Development Administration, and the U.S. Geological Survey. Washburn was trying to become the Midwest pulling point for the use of this system. It seems that Washburn was trying to dominate other universities by being the focal point for this giant system, attempting to increase enrollment and activity on campus. It was proposed to allow other universities and governments access to the use of the DIDS, undoubtedly at a cost. The article ends here, but even through this attempt, Washburn put itself on top for investment and potential with innovation in computer science for its students.

The benefits of computer science were not limited to the departments on campus. According the *Washburn Review* (1987), admissions

decided to utilize the full potential of the science and fully computerized the enrollment procedure. Originally, students enrolled in using punch cards and enrollment forms. The college would print a set amount of punch cards for a class and determined the number of students that could enroll for the class. Some professors would take a few cards out of the total available and barter with other professors a student's ability to enroll in a class. This computerization moves eliminated the punch card enrollment and provided instant availability of classes with class alternatives if a conflict occurred for a student. The enrollment time for a student decreased significantly. A student had to wait to confirm the schedule before they could pay the fees.

1990s to Present – Modern Computer Science at Washburn

Washburn University's Computer Science program became a selling point. Other universities in Kansas were outshined by the program at Washburn and it drew in many students. The location of the department changed, along with the name. The department was renamed the Computer Science Department and shifted locations multiple times in the nineties into the twenty-first century, placing its home currently in Stoffer Hall.

The major did not change much throughout this time, only by replacing the dead languages of RPG and FORTRAN and with new high-level languages like Java and C#. However, many new computer science courses were added as technology progressed. With the invention of microcomputers, networks, and the implementation of operating systems, many new opportunities were offered to computer science students. Networking became a new job potential for students, as the world was becoming connected with the new World Wide Web. Washburn adapted quickly by requiring computer science students to study networking systems and how to manage them on a business scale. Programming languages grew into fierce powerhouses, creating more advanced software. Each computer science student had the opportunity to learn at least three languages while studying at Washburn, mainly Java and Assembly.

The makeup of the students in computer science took a complete turn in composition. What was once a field for women slowly shifted into a field for men. Class composition became almost entirely of men, and the job market started to become flooded with men. Many women chose a different major because of the discomfort of working

in an environment with a lack of their gender. However, as of 2017, companies like Google and Amazon are encouraging women to get back into the computer science field by teaching them in grade school the concepts of programming. The era for male computer scientists will soon be challenged by a nostalgic era of women.

Conclusion

Today, Washburn boasts four-degree options in computer science, with many other majors taking a dip in the curriculum. Actuary and Physics majors often get a minor in computer science, taking the courses along side computer science majors. Program has been tailored to meet every computer scientist's needs for real world applications. It has been created to provide a well-rounded understanding of many computer topics, accommodating almost every path a computer graduate could take. From majority women to majority men, the interest still persists.

Thanks to the innovation of technology, every student at Washburn has the accessibility to the web with the computer stations everywhere on campus. Every student has the ability to create programs in class and troubleshoot in real time anywhere; no wait time with punch cards anymore in a lab. Computer science has come far at Washburn since its first appearance as a punch card class and will continue to serve as an outlet for the next generation of computer scientists.

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Kinesiology Tape: Physiological or Psychological?

Mikaela Cox

The Olympic games of 2016 saw athletes sporting an array of different colors. These colors were not those in support of their country, but instead adorned numerous areas of the body supporting muscles, tendons, and joints. This new treatment option was then adopted by various professional athletes throughout many disciplines throughout the world. Kinesiology tape was intended to provide accessibility to an affordable treatment option, that could commonly be applied by the athletes themselves. Its intended purpose was to alleviate pain and offer support, typically by reducing edema through the promotion of blood flow and lymph drainage, in both injured and healthy athletes.

The Views

Physical therapists commonly use kinesiology tape due to its straightforward application. Because it is easy to use, a therapist can recommend the use of such tapes to aid in recovery of injured muscles or tendons, or in support after recovery, knowing a patient will be able to obtain the tape. Commonly sold at many retail stores, such as Walmart and Academy Sport & Outdoors, kinesiology tape is also a very affordable alternative to compression sleeves, splints and bracing. While many suggest a qualified physical therapist first show

the athlete how to properly align and create accurate tension in the tape, others argue that the tape can be simply laid as a Band-Aid across the target area. This simplistic design makes it a very useful tool for any athlete who is recovering from injury or seeking a performance improvement in their muscles. However, kinesiology tape has both its activists and skeptics. Ted Forcum, a Doctor of Chiropractic, and other supporters of kinesiology tape's physiological benefits agree that the tape's effectiveness is seen throughout many factors of performance improvement. Forcum's, 2019 article published in *Sports Chiropractic* journal, supports kinesiology tape's benefits in the realms of edema, muscular performance and facilitation, proprioception, balance, and pain (Forcum, 2019). In this study, Forcum focuses on the accurate application by using the most up to date techniques. He strongly believes in the effectiveness of the tape and speaks to its usefulness in not only combating the initial injury but also in relieving effects of any compensation effects. Forcum's beliefs are driven from published research and self-experience while working in his field. However, skeptics believe that this tape is not as effective as Forcum describes. In 2017, Jennifer and Matthew Reneker, along with Lisa Latham and Ryan McGlawn, completed a review of eleven articles analyzing the perceived physiological effectiveness of kinesiology tape. Among these articles, many argued that kinesiology tape had little to no effects on performance improvement when compared to other tapes (Reneker, J, Latham, McGlawn, R., & Reneker, M, 2017). The reviewed articles looked at a wide array of muscles and conducted a variety of experiment types. While opposing viewpoints portray most professionals' views, new thoughts about the tape have surfaced as a result of its popularity.

The Psychological Placebo

Perhaps the most intriguing argument to the effectiveness of kinesiology tape is the idea that the tape provides a placebo effect in the athlete using it. Arguments supporting this idea claim that the application of the tape cause the athlete to believe psychologically that the tape is performing the physiologic benefit that it was designed for, whether that be support of the muscle or to increase filtration. The University of California, Berkeley's Wellness Letter, released in the summer 2018, explained that enough research has not been done as to the cause of the improvement to discredit the belief that these

changes are due to a placebo effect of the tape (University of California, Berkeley, 2018). Derek Nichols, Tracey Robinson and Dustin Oranchuk, studied a group of NCAA athletes using kinesiology tape and described the placebo effect the tape can create stating, “When an athlete believes that an intervention is effective, the intervention will often result in a beneficial outcome, regardless of its merit” (Nichols, Robinson, & Oranchuk, 2019). This statement describes the ideology that the physiologic changes that produce an increased performance may not directly be influenced by the tape, but instead by the athlete’s psychological belief that the tape will work, typically through an increase in proprioception. This physical presence of the tape can provide the athlete with enough confidence that the psychologic belief that it will work subconsciously causes the athlete to perform with more freedom, resulting in increased muscular function. The freedom from worry that an injury may occur removes the common mental block that athletes with a lingering injury typically face. Application of the tape also increases the athlete’s proprioception of the effected muscle fascia, tendon, ligament or joint space (Forcum, 2019). This heightened awareness causes the athlete to move with more efficiency and create less strain on muscles, tendons and ligaments. When this increased efficiency creates an improvement in performance, it can be considered that this improvement is more likely due to the athletes increased feelings of freedom instead of physiological changes that the taping causes to the muscle fascia (Forcum, 2019).

How the Placebo Ideology Impacts Supporters and Skeptics

For those in support of kinesiology tape, such as Forcum, it has been scientifically shown that the tape may be useful in reducing edema. By encouraging the surface of the skin to bind with the adhesive of the tape, it reduces the amount of tension and inflammation that constricts both vascular and lymphatic passages. In opening these passage ways, the flow of blood can increase, which promotes healing and allows lymphatic excess to drain to the rest of the body, reducing edema. While this component of the kinesiology tape is accurate, it does not drastically decrease pain. It could be argued that by reducing edema, which constricts against bones, vessels, and muscles, pain is alleviated, however I do not see kinesiology tape as a direct reasoning for performance improvement through reduction of the amount of pain an athlete is feeling. In studying the NCAA athletes in 2018,

Nichols, Robinson, and Oranchuk, completed a single-blind study using kinesiology tape, a placebo tape (common athletic tape) and no tape (2019). The athletes were unaware which tape type they received as they were required to wear sweatpants that would visually cover the tape. At the end of the performance, the athletes were given a survey, which anonymously associated with which tape type they received. In completing the survey, athletes were asked about their perception of the tape they used and how it impacted their performance. By using this surveying method, no real conclusions of the tape's physiological effectiveness can be drawn from the data collected, because it is qualitative data based solely on the individual athlete's opinion. This work contains a previously mentioned statement, "When an athlete believes that an intervention is effective, the intervention will often result in a beneficial outcome, regardless of its merit" (Nichols et. al., 2019). This describes why the idea of taping in general can provide a placebo effect on the athlete, increasing their performance. In this way, the athlete's perception of pain or fatigue reduction is because they, believed that the tape they received, whether kinesiology or athletic, would improve performance. By believing they were wearing kinesiology tape, athletes would have a predetermined set of expectations of how the tape would work, which would encourage them to perform to those expectations. Then, upon completing the survey, would list their results as a perceived improvement to muscular function, although it may mostly be due to the psychological benefit of the tape and not solely to the marketed physiological benefits of the tape. When compiling the results of the surveys, there was no significant difference between athletes that competed with kinesiology tape and those that competed with common athletic tape, although both perceived a muscular performance improvement. Because both perceived improvements in their performance, it is justifiable to believe that the athlete's perception of the application of tape caused them to perform better. If the kinesiology tape performed instead at a higher rate through its physiological benefits, these athletes would have seen a higher increase in performance perception than those of the common athletic tape. This is important because many experiments are conducted with surveys in this manner. By relying on individual athlete's opinion on their performance, there are no concrete and discrete numbers associated that explain exactly how much the muscular function increased and what caused it. For this reason, it is uncertain

as to whether a physiological change has occurred or if a psychological change has encouraged the athlete to believe such a physiological change has taken place. This uncertainty may encourage skeptics of the tape, reinforcing that there is no clear-cut evidence supporting purely physiological benefits of kinesiology tape.

Is it Applied Correctly?

In support of the placebo impact is the argument that kinesiology tape is commonly misapplied. Paul Cocker's article published in 2012 in *sportEX dynamics*, shows that the elastic ability of the tape, made from cotton fibers and waterproof acrylic adhesive, is designed to mimic the flexibility of the epidermis (Cocker, 2012). This fibrous structure is supposed to aid in the success of kinesiology tape. However, if it is applied incorrectly, results seen may still come from the aforementioned placebo effect. Cocker (2012), explains if the patient is unfamiliar with the application of kinesiology tape, the technique should be demonstrated by a licensed professional (Cocker, 2012). This ensures that the patient knows the key components of accurately using the tape: stretching the muscle fascia and tissues in the affected area, cutting the appropriate length of tape and rounding the edges, choosing the appropriate amount of tension, laying the final few centimeters of each piece against the skin with no tension, and rubbing the tape once applied to activate the adhesive binding with the epidermal layer. While the tape will not hurt the patient if it is inaccurately applied, it is believed that it will not provide the improvement and recovery that is designed for. Dr. Lance Doggart (2015) published an article, describing the same factors in tape application as Cocker (2012), touching also on shelf life of unused tape and suggested time frame between re-application (Doggart & Catlow, 2015). His article, along with Cocker's, show that kinesiology tape was designed to be applied in a specific way and by not applying it correctly, it is likely that the physiological factors that are supposed to improve will not be affected. Therefore, in studies where the athletes are applying the tape on their own, with no direct supervision by a qualified source, it is unlikely that their taping methods are accurate enough to allow beneficial results to be drawn directly from the tape. This idea draws back to that fact that kinesiology tape commonly produces a psychological effect on the athlete's perception of their performance improvement. The athlete believes that the tape they are wearing will result in the

improvements that it is marketed for, without realizing that by inaccurate application, the tape is having limited physiological impacts on the muscle fascia.

Summary

Kinesiology taping, while created almost fifty years ago, did not reach popularity until within the last ten years. In this wave of the colored tape craze, professionals have tried to decide whether it is truly effective in promoting recovery and improving performance ability. While there are physiological benefits that lead one to believe in its results in edema reduction, some are beginning to question whether the tape has encouraged other true physiological improvements, or if the tape creates a psychological change that the athlete perceives as an improvement. The lack of quantitative data supporting any true physiological benefits, encourages the skepticism that this 'miracle tape' can alleviate as many problems as it claims. However, the placebo effect can still improve an athlete's performance by giving them the confidence to perform with more freedom and less worry. Now the questions remain: is this psychological benefit enough for athletes to spend the money on tape; and does the root cause of the performance improvement matter enough to base a decision on the physiological versus psychological nature of kinesiology tape?

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Breaking w/the Fifth, an Introduction to Spherical Geometry

Mary P. Greene

Around 300 BC there lived a Greek mathematician who went to work in Alexandria, Egypt. He set himself the task of organizing the most comprehensive treatise on Geometry known at the time. Due to his success, Euclid is often referred to as “The Father of Geometry” as he was the first to logically compile such a vast body of knowledge. Of particular note, are the five postulates (unproved, self-evident truths) upon which he based the bulk of his work, known today as Euclid’s Five Postulates:

1. Through any two points there is exactly one line.
2. A line segment can be extended indefinitely in a straight line.
3. A circle may be described with any given center and radius.
4. All right angles are congruent.
5. If a line, falling on two straight lines, makes the interior angles on the same side less than two right angles, then the two lines, if produced indefinitely, will meet on that side on which are the angles less than two right angles.

As it turns out, mathematicians took exception to Euclid’s 5th Postulate and for centuries tried to find a way around it - or to elim-

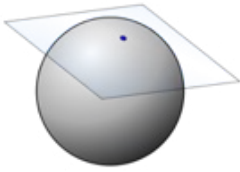


Figure 1

on the surface of a sphere, a three-dimensional solid where every point on its surface is equidistant from its center. It is this geometry, Spherical Geometry, that is the subject of “Breaking w/ the Fifth.” The

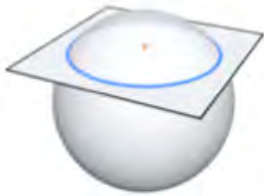


Figure 2

first four Euclidean postulates are true on the sphere, but the 5th changes to: all lines intersect. hold on spherical surfaces? Since a point has no parts and is used to indicate a location, it follows that it would exist on any surface, and so the definition need not change for a point on a sphere. Suppose there is a plane and a sphere in three space. Then three scenarios can happen: first, the plane and the sphere may be skew, that is, they may

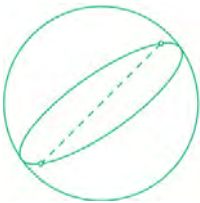


Figure 3

not intersect at all; alternatively, the plane could be tangent to the sphere (Figure 1), or it could intersect with the sphere (Figure 2). It is this last case that is most interesting as the shape formed on the surface of the sphere is that of a circle (Polking, 2000). To demonstrate, Figure 2 shows the intersection of a plane and a sphere, and the result is the circle depicted in blue. Recall from Euclidean

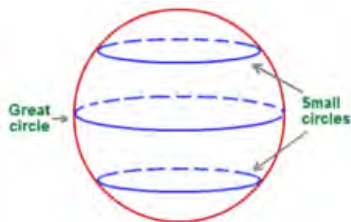


Figure 4

Geometry, that a circle is defined to be the shape formed when all points are equidistant from a given point, the center. Thus, when a plane intersects a sphere, numerous circles are formed with the largest one created by the intersection of the plane through the center of the sphere as



Figure 5

demonstrated in Figure 3. Since this circle goes around the girth (widest part) of the sphere, it necessarily passes through two points on the sphere that are directly opposite each other. These points, sometimes called poles, are known as antipodal points. The circle passing through a pair of antipodal points is called a great circle; and this is exactly how a line is determined in Spherical Geometry. A line is a great circle. All other circles formed are known as small circles as they do not pass through a pair of antipodal points. The earth is a good model to consider while studying Spherical Geometry as it offers an approximation of the sphere. The antipodal points are commonly referred to as the North and South Poles, and the lines of longitude are great circles passing through the Poles.

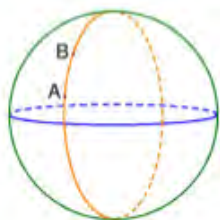


Figure 6

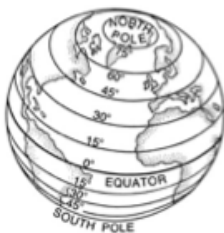


Figure 7

Since a line is defined as a great circle, what is a line segment? In Planar Geometry, a line segment is defined as a finite line between two points. Does this apply on the sphere? To answer this question, ask whether it is possible to draw two points on a line, or great circle, and connect them. If yes, then segments are possible on a sphere. In Figure 6, the orange and blue circles are lines, and A and B are points on the orange line. Clearly, a finite line can be drawn on the surface of the sphere connecting these two points; this finite line is called a line segment. Then a line segment (or simply a segment) is part of a line, a part of a great circle.

In defining a line as a great circle, one might raise the objection that the earth has numerous lines of latitude, yet only one of the lines covers the girth of the sphere, the equator. But the “lines of latitude” have been named for ease of reference and continuity with the lines of longitude. Therefore, minus the equator, “lines of latitude” are actually circles of latitude.

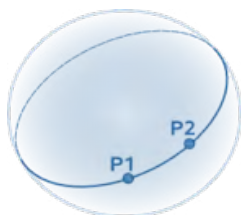


Figure 8

Consider, two points, P1 and P2 on the sphere in Figure 8. Is there more than one way to connect them? Yes, they can be connected

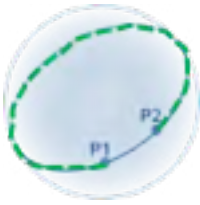


Figure 9

over the shortest distance in the front of the sphere, over the longest distance around the back of the sphere. In either case, a segment from P1 to P2 has been constructed. For ease of communication, a line segment (or segment) is defined as the shortest distance between two points on a line. Then the longer distance around the sphere from P1 to P2 will not be considered a segment in this paper, though there may be no such restrictions in other works. Consequently, by definition, the green segment depicted in Figure 9 is not a line segment. From Euclidean Geometry, a circle is defined as the set of points that are equidistant from a given point, the center. It is important to recognize that circles are defined in a two-dimensional space, and while the definition of a sphere is related to that of a circle, a sphere exists in three space. Previously, the result of the intersection of a plane with a sphere was shown to be a circle, either great or small. On the plane, a circle has exactly one center which is equidistant from every point on its circumference.

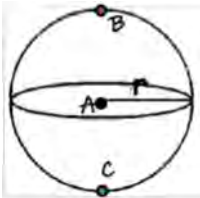


Figure 10

With this in mind, consider the sphere in Figure 10. Point A represents the center of the sphere, that is, the internal center or spherical center. This point is distinct from points B and C as these two points are located on the surface of the sphere. Points B and C represent the centers of the great circle constructed on the surface of the sphere. Hence, a great circle has two centers. In this context, a center is the point on the surface of the sphere that is equidistant from every point on a spherical circle. In application to the earth, both the North and South Poles are centers for the equator.

Do small circles also have two centers? Yes, though one center is located farther away from the circumference of the circle. However each center, is still equidistant from the circumference of the small

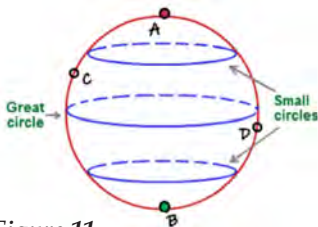


Figure 11

circle respectively, which satisfies the definition of a center. By way of contrast, points C and D in Figure 11 are not centers for the three circles depicted as neither point is equidistant from the circumference of any one of the circles. However, points



Figure 12

A and **B** are centers for the two small circles as well as the great circle. Since great circles and small circles both have two centers, every circle formed from the intersection of a plane and a sphere has two centers and those centers are antipodal to each other.

Consider again, the example of the earth in Figure 12. As seen, the poles of the earth are the centers of the equator and they are a pair of antipodal points. Since a line can be constructed through any pair of antipodal points, it follows that an infinite number of lines can be constructed through those same points. Consequently, an infinite number of great circles can be constructed through the centers of any circle as they are antipodal to each other. The earth exemplifies this concept as numerous lines of longitude can be constructed through the poles.

Recall that the 5th postulate in Spherical Geometry states that all lines intersect. Does this mean that all circles intersect? Clearly not. For example the “lines of latitude” never intersect, specifically, they are parallel. Hence, the circles of latitude are all parallel to each other and parallel circles exist on the sphere. Since a circle is formed from the intersection of a plane and a sphere, parallel circles are formed when their corresponding planes never intersect each other.

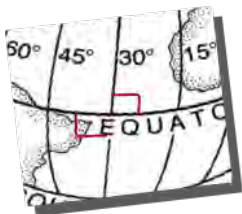


Figure 13

The 4th postulate states that all right angles are congruent. Where do right angles occur

on the sphere? Using the example of the earth, the longitudinal lines meet the equator at right angles from both the poles. Then from the South Pole, the longitudinal lines intersect the equator at 90° and from the North Pole, the longitudinal lines also intersect the equator at 90° . Then, a line of longitude intersects the equator creating four, 90° angles where an angle (as seen in Planar Geometry) is the measure of inclination between two intersecting lines at their vertex. This definition holds on the surface of the sphere. Hence, in Spherical Geometry, complementary and supplementary angles exist, and vertical angles are congruent.



Figure 14

In this paper, a polygon is a shape on the sphere composed of noncollinear segments that is closed and simple. Recall from previous studies of geometry

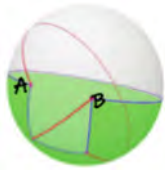


Figure 15

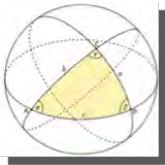


Figure 16

that noncollinear means not on the same line. On the sphere, this means the line segments cannot be from the same line. ‘Closed’ indicates that the line segments must all connect, but the term simple stipulates that they cannot cross over each other. Clearly then, the star in Figure 14 is not a simple shape; though it is closed, it is not simple and so cannot be called a polygon. It is important to note, that a line segment is defined to be the shortest distance between two points on a line. Hence, the green shape in Figure 15, while closed and simple, is not composed of line segments since the longest distance from **A** to **B** forms one side of the shape. Finally, a polygon is constructed in

Figure 16 as the shape is closed, simple, and composed of noncollinear line segments.

Many other polygonal properties in planar geometry also apply in Spherical Geometry. For instance, regular polygons exist on the surface of the sphere as it is possible to create a polygon that has equal side lengths. Following from this, regular polygons are also equiangular. At this point, a clarification of angle labeling is necessary. When discussing the angles of a polygon, the ones in question are those inside the shape, also known as interior angles. In Figure 16 the angles of the polygon are α , β , and γ . It follows that the exterior angles would be those outside the polygon itself. These

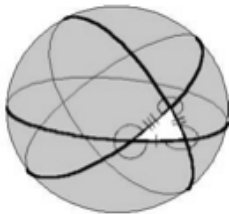


Figure 17

are marked in Figure 17 as the exterior angles of the scalene triangle. Consider the triangle on the sphere; notice its “reflection” on the back of the sphere. While the two triangles may appear to differ in size, they are actually congruent images of each other. This is the case for every polygon constructed on the surface of a sphere. Hence there are two polygons that are directly opposite,

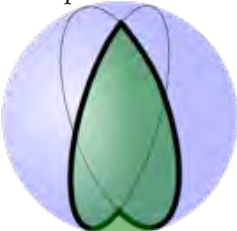


Figure 18

yet congruent to one another. Now, the gray shaded area in Figure 17 is also a polygon by definition. However, this paper only addresses those polygons which form a congruent image of themselves on the opposite surface of the sphere.

On the plane, the smallest number of sides a polygon can have is three. In the sense of having the least number of sides, this makes the triangle the simplest polygon. However, on the sphere, it is possible to have a two sided polygon, called a lune, or a digon. In Figure 18, the green region is formed by the intersection of two lines which meet at exactly half-way around the circumference of the circle. Then, one side of the shaded region is half of a line and the other side is also half of a line. Recall, that a line segment is defined to be the shortest distance between two points on a line. However, in this case, there is no shortest distance between the intersection points. Hence, both sides of the shaded region form line segments. The green area then, is bounded by two noncollinear segments that are closed and simple. Therefore, a two-sided polygon is formed, a lune.

Notice angle α , a lunar angle, depicted in Figure 19. Each lune has two lunar angles which are congruent to each other. Consequently, a lune is equiangular. On the sphere,



Figure 19

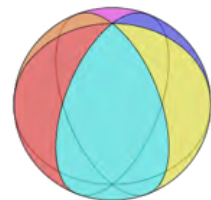


Figure 20

similar polygons exist. In Planar Geometry, two polygons are similar if their corresponding angles are congruent. This concept applies on the sphere; if the corresponding angles of two polygons are congruent, then the polygons are similar. However, in Spherical Geometry, it goes one step farther. Similar polygons are congruent. Thus, if the corresponding angles of two polygons are congruent, the shapes are congruent. Hence, if multiple lunes are drawn on a sphere, those with the same angles are congruent to each other and their side lengths are equal. For example, Figure 20 shows six lunes, each with a lunar angle of 60° , so all six lunes are congruent to each other.

A triangle on the sphere is defined as a three-sided polygon. It follows then, that three distinct lines (great circles) are required to construct a triangle. While spherical triangles are very similar to those on the plane, a considerable difference is that the angle sum of a triangle on the sphere is greater than 180° while on the plane it is exactly 180° . Recall that the lines of longitude intersect the circles of latitude at 90° angles. Thus, on the sphere a right triangle has at least one right angle. However, it is possible to have three right angles. Note, the angle sum

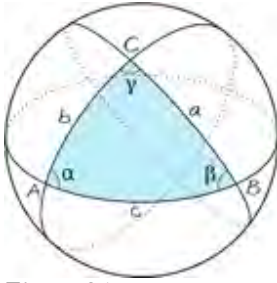


Figure 21

of a triangle is the sum of the interior angles. The phrase “exterior angle sum” is used to address the sum of the angles formed on the outside of the polygon. It is the same as on the plane. In Figure 21, triangle ABC has an angle sum of $\alpha + \beta + \gamma$. By way of contrast, the exterior angle sum can be found by totaling the supplementary angle of each interior angle. More precisely it can be calculated by $540^\circ - (\alpha + \beta + \gamma)$.

Consider the axioms for showing two triangles congruent on the plane: SAS, ASA, AAS. While the first two are applicable in showing two triangles congruent on the surface of the sphere, AAS does not show congruency on the sphere as demonstrated in Figure 22. In both Planar and Spherical Geometry SSA is not sufficient for congruency. Regarding similarity, SSS and AAA prove that two triangles are similar

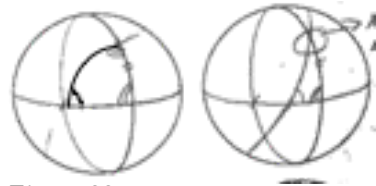


Figure 22

on both planar and spherical surfaces. However, similar polygons are congruent in Spherical Geometry. Hence, SSS, SAS, ASA, and AAA prove two triangles congruent on the sphere.

Although Euclid’s work was the leading mathematical text for over 2,000 years, it was his Parallel Postulate that provided the impetus mathematicians required to eventually broaden the field of Geometry. As discussed throughout this paper, the first four postulates hold on both the plane and the sphere, but the 5th postulate changes depending on the surface under study. One such surface not addressed in “Breaking w/ the Fifth” is the hyperbola, where all lines are parallel. On the plane, parallel lines are possible; on the sphere, parallel lines do not exist. The latter is the cornerstone of a modern geometry, namely, that of the sphere. This paper has delineated an introduction to the concepts of Spherical Geometry through an analysis of lines, circles, and polygons on the surface of the sphere compared to that of the plane.

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Mason-171

Zandra Sneed-Dawkins



Water Bears

Sydney Watters

The Water Bear, or the tardigrade, has become popular in recent years due to its ability to survive long periods under high pressure, low temperatures, and low moisture. There is even a common legend that has emerged, claiming that a Water Bear lived for over 120 years. While it is true that Water Bears have a unique ability to survive under extreme conditions, much of the information on them in the media is greatly hyperbolized. As of now, research on tardigrades is quite limited. It is known that they can be found all over the planet and are aquatic micro-animals. However, little is known regarding their phylogeny and their origin, and even the research that has been conducted on the Water Bear leaves scientists with more questions than answers. This essay will examine what is known about tardigrades so far. Starting with their phylogeny and habitat and moving on to the biotic and abiotic factors that affect their survival and how those factors affect their life cycle, reproduction, feeding habits, and relationships with other organisms.

To begin, it is important to know where tardigrades originated and where they live now. Hardly anything has been discovered about the origin of the Water Bears, other than the assumption that they originated from a marine species (Guidetti et al. 572). This can be

assumed based upon their water requirements. Water Bears require water to move – without it they not only find it difficult to move, but their mouthparts can become stuck to whatever material they are trying to move over. This was common in many experiments trying to observe Water Bears, as they often got stuck to the plastic bottoms of petri dishes; as in the experiment conducted by Atsushi C. Suzuki (Suzuki 50). In most experiments involving the rearing or observation of tardigrades, a thin layer of agar had to be present on the bottom of the petri dish, along with a layer of spring water to ensure that the Water Bears would not get stuck and would not desiccate. The same is true for Water Bears in their natural habitats as well. They are aquatic animals that are found in a wide variety of locations including freshwater, marine, and terrestrial habitats. There are species that live in Antarctica and species that live on moss on common trees in cities – there is next-to-nothing limiting their geographical location. A question that scientists had for a long time was regarding the reason why aquatic organisms such as tardigrades would choose to inhabit terrestrial biomes. This question can be answered well when you take into consideration the stage that they evolved called cryptobiosis, which will be described in detail later in the essay. Not only do they need water to properly function, but they also need some form of substrate that they are in or on. These substrates can range from moss, to lichen, and even to Agar in the case of the scientific experiments. The purpose of the substrate is to provide something for the Water Bears to walk on, and in a lot of cases the substrate also acts as food for the Water Bear, or protection for when it is molting, reproducing, or going through the process of cryptobiosis. As the essay moves on to explain cryptobiosis, the location and habitats of tardigrades will become clearer, and methods of distribution and dispersal can be more easily understood.

The phylogeny of the Water Bear is still almost a mystery. Very little is known, and in the study conducted by Aslak Jorgensen and his partners, they even referred to the species as “neglected” (Jorgensen et al. 1006). Data suggests that tardigrades are a part of the group echdysozoa and the division Metazoa and are thus closely related to Arthropods (Jorgensen et al. 1006). They are generally classified into one of the three classes known as eutardigrada, mesotardigrada, and heterotardigrada. The three classes are separated as such because of the habitat in which those tardigrade species reside. Eutardigrada

encompasses freshwater-terrestrial Water Bears, mesotardigrada includes freshwater tardigrades from hot springs, and Heterotardigrada includes both freshwater-terrestrial and marine Water bears (Jorgensen et al. 1006). The topic of cryptobiosis arises again when discussing phylogeny, because it plays an important role in determining exactly how the Water bears evolved. It is important to note that cryptobiosis has originated independently several times in different taxa of bacteria, protists, and other organisms. However, cryptobiosis can only be found in a few taxa, one of them being the tardigrades. In numerous research articles regarding tardigrades, including the one by Roberto Guidetti and his colleagues, it is believed that cryptobiosis evolved more than once in the phylogeny (Guidetti et al. 572). One of those times would have been in the class Eutardigrada and the other in the line of Echiniscoidea, which is one of the two orders under heterotardigrada. This means that cryptobiosis in tardigrades is not an ancestral trait shared by two taxa (plesiomorphy), but rather an apomorphy (Guidetti et al. 572). This may indicate that the mechanisms behind cryptobiosis are “ancient and universal” and may be restored through gene pathways that are typically inactive in Metazoans (Guidetti et al. 572). Even so, the differences in cryptobiotic performance cannot be explained by the phylogeny, so there are still many unanswered questions regarding the phylogeny of Water bears.

As discussed previously, tardigrades require water for movement and thus survival. Although this is true, anyone who has seen something about Water Bears in the news knows that they can survive without it for an extended period. This is all due to the process of cryptobiosis. Water Bears are by all definitions aquatic animals, so in order to move they need some sort of water film surrounding their bodies (Guidetti et al. 568). To survive in terrestrial habitats, they must allocate most of their energy to dormant stages. These dormant stages are a temporary suspension of their active life, in which their metabolism is suspended and development stops (Guidetti et al. 568). Anhydrobiosis is a form of cryptobiosis in which the organisms can withstand desiccation, and they can go through the process at any stage of their life cycle. Anhydrobiosis is a complex process that involves various molecular components that act as bioprotectants. There is debate as to which specific molecular components are involved in anhydrobiosis, but it is known that there are multiple molecules working together. In some way, these molecules must allow the tardigrades to safely and

slowly enter anhydrobiosis, maintain the steady state, and leave the process with the least molecular damage. Water bears can stay in the dormant state for months or even years, and when in the anhydrobiotic state, they show high resistance to many environmental extremes such as extreme temperatures and high pressures. There is another form of cryptobiosis as well, known as cryobiosis. Unlike cryobiosis in other organisms, cryobiosis in tardigrades is limited to the resistance to freezing rather than the ability to be frozen and then subsequently be thawed. Cryobiosis is not only found in polar species either, as it can be found in species of tardigrades in tropical and temperate areas as well. Just like anhydrobiotic, cryobiotic tardigrades can survive for years at temperatures hundreds of degrees below freezing. Although anhydrobiosis and cryobiosis are processes that are meant to protect the organisms, in some cases they can do more harm than good. Depending on how long the tardigrade stays in the process, the conditions of the state that they stayed in, and the conditions present during their initial entrance into the state, the molecular damage to the Water Bear varies. Even though they are in a state that is meant to protect them from extreme conditions, those conditions still cause damage to them, and can affect the time that it takes them to leave their cryptobiotic state (Guidetti et al. 571). A longer period spent in cryptobiosis of any form means a longer recovery period to repair damaged molecules and catabolize proteins and lipids that were damaged. This repair is based mostly on the damaged withstood during cryptobiosis, but it will be easier if the Water Bear did a good job going in to the cryptobiotic state in the first place. Another feature of anhydrobiosis that is characteristic of tardigrades is the "tun" that they form with their body when their substrate dries out. The formation of the tun reduces the surface area of the tardigrade and thus reduces the evaporation area (Guidetti et al. 572). As mentioned previously, cryptobiosis can be used to explain why tardigrades choose to live in terrestrial environments even though they are aquatic animals. There are various explanations, one being the fact that cryptobiosis allows the organisms to escape a hostile environment and decrease the rate of extinction. It also allows the tardigrades to use new ecological niches, allows for the reduction of predators, competitors, and parasites, and limits selection. The final reason is that while in cryptobiosis, tardigrades can travel through the wind and cross physical barriers that they can't cross when they are active, increasing dispersal greatly. Beyond cryptobiosis, there

are other factors affecting the survival of Water Bears as well. Tiziana Altiero and Lorena Rebecchi's research brought up a few more factors such as the oxygen in the water, as well as the presence of bacteria and molds that adversely affect the tardigrades (217). Tardigrades require oxygen to live, so often moss leaves are provided in experiments so that they have access to dissolved oxygen. In their experiment, Altiero and Rebecchi also concluded that the amount of oxygen available had something to do with the amount of time it took for the tardigrades to develop (219). Animals in their experiment would occasionally become extended and rigid and would only become active again after they dropped a few drops of spring water onto them. This elongated and rigid state is a characteristic of anoxia, which is the absence of oxygen. While tardigrades have anhydrobiosis to resist desiccation, and cryobiosis to resist freezing, as of yet, scientists have not been able to support whether Water bears have oxybiotic abilities that would allow them to survive in low oxygen environments. Finally, Altiero and Rebecchi found that bacterial overgrowth can also adversely affect the tardigrades (220). In the case of this overgrowth occurring, the additions of antibiotics to fight the bacteria can also cause problems, as mold will begin to grow. The only way to prevent this from happening in their experiment was to empty most of the water out of the petri dish and replace it frequently (Altiero and Rebecchi 220).

Tardigrades vary greatly when it comes to the method of reproduction. Some species require both a male and a female, some are hermaphroditic, and some reproduce by parthogenesis. There is not much research on the life cycle of Water Bears, and the research that exists is limited to a few specific species. On average, the tardigrades that were studied molted 7 times in their lifetime (Suzuki 49). The instar stages are the periods between two molting events, and at the first instar stage hatchlings can partially consume tardigrades if they are carnivorous. At the third instar stage, the tardigrades in the experiment were reproductively mature, and the first period of egg laying occurred at the same time as the third molt (Suzuki 49). To lay eggs, the female must first begin the molting process by ejecting the pharyngeal apparatus from the buccal tube and eventually sealing the mouth opening. After sealing the mouth, the female finds a safe place and settles there. At this point the new cuticle is formed, and the female prepares to lay her eggs in between the two cuticles. In this study, the females had to lift their tails for the eggs to escape through the cloaca,

because the passage is extremely constricting (Suzuki 52). The number of eggs produced depends on the condition of the mother, regarding how much she has eaten, how moist the environment is, etc. After laying the eggs, the mother stays in the old cuticle until ecdysis occurs, and they can all escape. In some cases, in the experiment, ecdysis did not occur and the mother died in the cuticle (Suzuki 52). The number of days required for the eggs to hatch and then reach maturity varies greatly within the species and between species. Some species do this on purpose, producing eggs that have different hatching times. Four categories of eggs were studied, including delayed-hatching eggs, diapause resting eggs, subitaneous eggs, and abortive eggs (Guidetti et al. 574). Subitaneous eggs hatched within 40 days, delayed-hatching eggs hatched a while after the subitaneous eggs, diapause resting eggs would not hatch until they were desiccated and then rehydrated, and abortive eggs would simply never complete their development. These different hatching times may be a way of the female not putting “all of her eggs in one basket” since some eggs will survive no matter the current conditions (Guidetti et al. 574). As for hermaphroditic tardigrades that were studied, they could be isolated at birth and still produce eggs later in life. It can be assumed that many tardigrades produce eggs in the same way that the lone females did, however insufficient research has been conducted on the tardigrade life cycle and reproduction to come to that conclusion.

The diet of Water Bears is quite diverse, which may correlate to the wide diversity of habitats that the tardigrades live in. They feed on a wide range of sources such as algae, fungi, nematodes, plant roots and more. They can be carnivorous, omnivorous, or herbivorous. Most carnivorous species of tardigrades that have been examined in experiments were fed nematodes as their food source, but that doesn't necessarily mean that that is all that they would consume in their natural environment. Seeing as tardigrades can only be properly examined under a microscope in a lab, very little is known about their diet preferences outside of labs. In some studies, it was found that they could feed just after hatching, and that in extreme cases they could feed only once per 3 days – this reduced feeding also reduced the number of eggs per clutch. In most cases, hatchlings were unable to fully swallow the nematodes, so they instead pierced them with their stylet and sucked out their insides with their mouth tube, leaving them as a hollow cuticle (Suzuki 50). Whether or not

the adults swallow the nematodes whole or just suck out their inner fluids depends on the amount of prey available to them. When there are many nematodes available, or the quality of the food is high, the tardigrades will not fully consume the nematodes. In some cases, the nematodes that are attacked can escape, and die later due to the injuries they sustained. When there are fewer nematodes available, the tardigrades swallow them completely. This is because they have fewer resources available and must get the most out of everything that they consume. As for omnivorous species, their diet often depends on their stage of life. Some species of tardigrades begin as herbivores and become omnivores as adults. Tardigrades also have a very specific way by which they detect their prey or food source. Most tardigrades detect their prey by touch, and as soon as their prey is detected by their circumoral field, the tardigrades attack (Jeschke and Hohberg 148). Jonathan M. Jeschke and Karin Hohberg conducted their study on the satiation of tardigrades, and as expected, tardigrades have varying levels of hunger and they slow their consumption of food as soon as they become satiated (Jeschke and Hohberg 150). The relationship between nematodes and tardigrades is a predator-prey relationship, and tardigrades play an important role in regulating the nematode communities. There is not much information on other relationships involving tardigrades, because most of the research being conducted currently has to do with their cryptobiosis. Some types of fungi may be considered as competitors to the tardigrades, since they are also predators of nematodes. Tardigrades are often in a state of cryptobiosis regardless, so few interactions occur between them and other organisms.

In conclusion, the lives of Water Bears are molded mainly by cryptobiosis as it affects their diet, their habitat, their reproduction, and their relationships with other organisms. There are many articles floating around the internet about how tardigrades are the key to space travel, however it is apparent from the research that has been conducted, that anything that grand is far beyond where scientists are at right now. Water Bears are good at surviving extreme conditions, however they are damaged during cryptobiosis, and they often can't survive for much longer than a few months in that state. They could survive the high pressure in space and finding out exactly how they do that could in theory help scientists find a way to make humans resistant to such high pressures. As mentioned before, cryptobiosis is

most likely an ancient trait of the metazoans, so there may be a chance that animals closely related to humans would be able to go through cryptobiosis. In the end, much more research needs to be done on Water bears before scientists can come to any real conclusions.

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Creative Work

Stories and Poems

Deal or No Deal

Whitney Clum

Category Winner *Creative Work*

There are exactly four types of people who frequent IHOP at two in the morning: drunk students whose breath smells of regret, waiters whose uniforms wilt in regret, stoned students whose everything smells of regret, and, of course, demons.

A rather handsome specimen of the latter group slid into a booth in my section, and with a sigh, I dragged myself over and flipped my pad open with a well-practiced flick. Back when I got hired—back when I had things like optimism, endurance, pride in oneself—I opened my notepad with the type of flair usually reserved for the Texas Rangers. I also tried my hand at that old one-two punch of a cute smile and cheerful inflections guaranteed to get you a pat on the hand and a few extra bucks from old people, but it doesn't really work when the dilated eyes of the idiot you are trying to serve can't even focus on the menu, let alone your expression.

Morons. All of them, morons.

I raised a single eyebrow at the demon sitting in front of me. "Well? You gonna order?"

Before I go on, I feel like it's important to clarify that demons—at least the ones I've seen—don't leave flaming hoof-prints in their wake, drape themselves in the skulls of their victims, or manifest as

skeletons long-decayed. They appear as something much more dangerous, much more appealing: the very best of the human race.

For y'all worried about your weakness for Abercrombie studs, I wouldn't worry. Unless you are also blessed with the power of complete obliviousness, you should be fine. Demons aren't perfect. Surprise, I know. Amateurs, like the one who slipped into my section, hold themselves too far above their victims to bother perfecting the art of mimicry. A sparkle here, a red side-eye there, the visible glow of perfection as they try to coax a human's Eros into muting the Super-go—the weary professional can spot the signs without much effort.

Even without the practice, it's human nature to back off from anything we deem as "too perfect." We get pissed off at the friend with an endless surplus of talent, seethe at the celebrity whose luck outweighs their likability, drift from the sibling whose walls are decorated with medals. I don't know if demons trade evil tips with each other Wormwood and Screwtape style or anything, but if they did, you would think they'd have realized that pretending to be perfect is useless. The fastest way to raise suspicion is to have no visible faults.

It was that sort of overly perfect, rakish-haired specimen that sat primly in front of me. Maybe he thought he was being original, coming into an IHOP. Maybe he thought this was un-trod territory, that plenty of demons hadn't already come up with the bright idea of slumming it with the exhausted, the world-weary, the people too drunk to notice that they were sharing crepes with a fallen angel.

Maybe he was gonna order in the next century, so I could go fill up Table 5's water.

The demon raised a single blonde eyebrow and gingerly picked up the menu. "What's good?"

I shrugged and tapped my notebook with my pen. "Haven't seen a June bug in the blueberry stacks for a while."

"A glowing recommendation. Truly."

"They also don't have much salt," I said, regretting the jab as soon as it shot out. Curse my sarcastic nature. "I mean, if you have a sodium deficiency-," I said, trying to backtrack.

The air around us rippled, and for a second, it was as if the rest of the world was muted. Noise, color, hot, cold, everything. Everything was leached out, and for one horrifying moment, the world was a shadowland. Then everything came rushing back, panicked at its forced absence.

Fear began to ball up in my stomach. As much as I wanted to go out in a bang of sass and attitude, a tiny part of me realized that IHOP had only managed to kill off most of my will to live. A tiny ember that wanted to re-watch *Bedazzled* shook its little fist at the rest of me. *Why didn't you just give the table to Amy when you saw what'd you be serving?* raged the ember. *Why didn't you just play dumb?! WHY ARE YOU SO STUPID?*

Shut your face, I told the ember. I'll get us out of this. We can watch the movie tonight.

I popped my neck and looked steadily at the demon, trying not to visibly quake. "So. The pancakes?"

WHY ARE YOU LIKE THIS cried the ember. *BEG FOR YOUR LIFE, WOMAN!*

The color of hate flashed behind his eyes. For a long moment, he just looked through me, as if assessing some invisible quality. "You're human."

"Correct."

"What gave me away?"

It was not phrased as a question. It was a demand. The knot in my stomach tightened. Why was I so hot? "You're perfect."

Droplets of sweat started running down my neck. A few tables over, iced coffee began to boil. "Let me rephrase. You're too perfect."

The coffee continued to boil, but it didn't catch fire.

"Look around you." I pointed to a guy who had face-planted in his hash browns once the LSD wore off. "That guy has been here since noon tripping. Behind him? He just found out that his wife of seven years has been dating his brother for ten. That woman? One time, I saw her eat a salad made completely out of cannabis leaves. Then you come rolling in, decked in a designer suit, Rolex, gelled hair. We get a bunch of your kind in here, and the excess perfect-ness kinda gives it away. Plus, you know the, bigness."

I flapped my hands trying to translate "bigness" to "excess of presence." The kind of glow, the kind of solidity of space that humans just didn't have.

He toyed with his menu. "Well. No beating around the bush then. Might as well make my offer." "Excuse me?"

"I have a very specific job, one that only I do. I prey on the vulnerable, crawl among the corpses of the faithless, whisper into the

dreams of the desperate. I observe where people are and where they want to be. In short, I make bargains."

Nope. Nopenopenopenopenopenopenopen. "Well," I said, wondering if this counted as a glorious last stand, "I don't know if anyone here is coherent enough to consent to a deal tonight. If I were you, I would try your luck somewhere else."

He snapped his fingers, and a second shockwave echoed through the restaurant. Everything was still. Absolutely still.

"You misunderstand me." His oily tones turned dulcet, warm. "I don't walk around this clod of dirt offering bargains to everyone I come across. Ever since horror movies became big, people don't stand around to chat. They run screaming for a Bible or a priest. Very inconvenient."

My mouth went dry. Everyone and everything in the restaurant was frozen, including the phones. Could I make it to the door?

"I do my research now. I investigate people, see if they're the open sort. The type to focus on the here and now, the type with dreams so expensive they hurt, the type whose need for revenge has burned away their common sense."

I knew what he was going to say before he said it. "I came for you."

There was barely enough moisture in my mouth to respond. "Don't want a golden fiddle, and this aint Georgia. Go away"

He spread his arms gregariously. "At least let me finish my sales pitch." "Go. Away."

He ignored me and tossed his menu away with two fingers. Powers of darkness notwithstanding, it wasn't hard to see why people stopped to listen to him. He was blonde, square-jawed, moved with the type of fluidity that came from never having to move for anyone else. "Look. I don't fish for bottom feeders. No, they either don't care enough, want more than a single wish, or have people from churches on speed-dial. Not worth my time. You, though. You are the best thing I could imagine. Apathetic."

Apathetic. He rolled the word around his mouth like it was a mint.

I couldn't help myself. Objection just burst out. "Why is that better? I had A's, friends, no rap sheet..." I trailed off, partly because everything I said came out hollow, but mostly because my self-preservation kicked in and glued my mouth shut.

He leaned forward, blue eyes sparking with hate, lust, and every longing in between. "What isn't there to get? You don't care about anything. You are too muddled, too lazy to seek a Great Truth, something to guide you. You don't even look people in the eye-you definitely haven't maintained any relationships that make you care about humanity."

"I care about humanity!"

He waved the objection away. "Yeah, yeah, as a concept, sure. I believe you. Against human trafficking, pro-malaria nets. Spare me. When was the last time you held the door for someone? Asked how their day has been, and *meant* it? Paid for a stranger's lunch? Helped an old person unload groceries? Go on."

The edges of my brain felt a little fuzzy. With every honey-coated word, his presence seemed to grow a little. I think at one point all I could see was his ironed tie.

The laundry list droned on, and finally, after what seemed like an hour, he stopped. There was a pause. "Apologies. Before I go any farther, I really would like to introduce myself-not with my real name, I'm sure you understand-but you can call me Faustus."

"A deal with the Devil. That's what you're offering," I said hollowly. The words themselves seemed to echo.

He took the coffee pot out of a fellow waitress's motionless hands and began pouring himself a cup. "I don't have to explain the rules then. Quid. Pro. Quo," he said, emphasizing every word with a shake of a sugar packet into the steaming liquid. "Don't pretend you're not interested."

"I don't have to pretend, because I'm not an idiot." Translation: *Take your offer and shove it.*

Ask him for a Bedazzled DVD, suggested the little ember, who I was beginning to think was not actually all that helpful. *Blu-Ray, if he can swing it.*

Faustus took a sip of the coffee and screwed up his face in disgust. "Too cold. Okay. Don't you even want to know what I was going to offer, just for curiosity's sake? Don't you want to know what we in the Down Below thought you would want badly enough to trade your eternal existence for?"

Ex-English major that I was, I had a guess. "Magic for twenty-four years in exchange for body and soul after the fact?"

Faustus rolled his eyes. “That was the deal for the original Doctor Faustus. Why would we offer what tempted an arrogant sixteenth-century university doctorate to a bitter IHOP waitress? What would you do with magic? Conjure up enough money for a Netflix account and spend the next two decades binging? No, I want to offer you a cure.”

“Am I sick?” If I got out of this unroasted, might as well be with knowledge that I needed to pass on to my Doctor. Pun unintended.

“With ennui of the heart, yes.” “Is it contagious?”

“How are you familiar with German plays but not common phras- You know what? Never mind. Ennui. Despair. Listlessness. Better known as Boredom of the soul. You don’t care. It’s a disease that transforms life from a gift or a curse to an annoyance. You won’t starve, but food never has an aromatic appeal. You aren’t living paycheck to paycheck, but there’s never quite enough to buy brand name luxuries.”

He leaned back in the grimy booth, somehow avoiding littering his suit with oil spots. “I’m offering a cure. For the rest of your life—no cap on it or anything—you will have ten tragedies and ten fortunes. Your life will change twenty times. Publishers would make their own pact with me for your biography.”

* * *

Five years later, when I confessed the tale to the man who would eventually become my spouse, I told him that after a flash of hesitation, I told him no. I shook my head, stalked away, and took an early break to have a mental breakdown in the break room.

The truth is, I had to press my mouth shut to force the *yes* that was trying to force itself up back down. Everything in my body except for that little burning ember practically vibrated in agreement with Faustus. I didn’t want fame--sounded exhausting, riches would probably set the IRS on me, and there wasn’t anything I loved or hated enough to trade anything like a soul for. But that was the point. There was nothing.

I looked around the frozen restaurant. This was the kind of thing, twisted as it was, that would never happen to anyone else here. This was the kind of supernatural occurrence that some people spent their entire lives searching for. This chance, it was one in a million.

I made up my mind.

“Thanks. But no thanks.” I took the coffee pot from him. “You know what I want? I want to be the type of person who doesn’t

warrant special attention from you.”

I was going to say more, but I blinked in the middle of my little monologue, and by the time I opened my eyes, the restaurant was moving again, and Faustus was gone. I stood there, feeling acutely odd, with a carafe full of burnt coffee.

Amy, my fellow waitress in arms who was usually just as stoned as the clientele hurried over. “That guy give you trouble?”

I shook my head. No human connections, he had said. “Nah. It was nothing. Hey, you wanna come over my place after my shift? I was thinking of re-watching *Bedazzled*.”

She snapped her gum. “Never seen it. Any good?” “The *best*.”

Outside, the being that called himself Faustus smiled to himself and pulled out a cell phone. “It’s me. She’s been taken care of. I think she’s going to be fine.”

On the other end, a member of the Heavenly Host, unnamed partially due to security reasons but mostly redacted due to the author’s wish to remain un-smote from holy lighting, nodded in

satisfaction. “Sometimes they just need a little push out of the malaise. Was burning the coffee totally necessary?”

“Oh, [REDACTED], please. It was already burnt.”

“You do realize that actual demons are rarely that obvious?”

“Life’s a show. Who else’s soul needs a little stirring to get back on track?”

The angel on the other end took a sip of milk mixed with honey and checked a scroll. “One hundred feet to your left, male, thirties, regrettable hair choice, even more regrettable life choices. See him?”

Faust gave a short little nod. “What’s with him?”

“Father of four, accountant for a pharmaceutical company, did improv in college. Working on getting himself out of a pile of credit card debt.”

Faust stopped walking and mulled it over. “I could see him readily associating money with the Devil.”

Up in the clouds, [REDACTED] pursed his lips. “Maybe. Remember, the idea is to give the humans a jolt of life into their veins, let them think they’ve beaten *him*, not annoy them into an assault charge.”

The angel temporarily known as Faust, soon to be known as Annoying Walmart Salesperson groaned, “Once. That happened once.”

Too fast for anyone to notice, too unexpected to be processed, his appearance blurred, and in Faust's place was a short sandy-haired Walmart employee clad in a blue smock and a helping of acne. He snapped the phone hut, then took off after the man. "Hey! Mister! A minute of your time? We have a deal you should know about!"

Desert Paintbrush

Hi Stockwell



The Train

Jaime Weible

On this day we shared a seat,
Dirty, torn, I exit to follow my feet
You wondered why I was all alone
The voices in my head keep me from home
I wander the day for treasures
Discarded, broken and tossed on the street,
I was special too once.
We sleep under the same moon and stars
We share the same space, our fears and desires
You don't hear my voices
They tell me to go
I'm all alone.
But for a moment in time,
You remembered me.
We shared a seat, a moon, and a star.

The Recycler: 10 Years Later

Kody Stadler

Imagine this: you're taking a stroll through downtown Minneapolis late at night, stopping by one of several nearby bodegas to purchase a gyro and bottle of iced tea. You get them both to go and continue exploring the city by sidewalk while eating, soon throwing both the leftover wrapping and empty bottle in a trashcan – you don't notice the recycling bin next to it. Shortly afterwards, you decide to head for home and cut through a series of back areas when you notice a figure slowly gaining on you. You start walking quickly, hoping to lose the stranger behind you, and finally, after cutting through a few alleyways and making several turns, you succeed. Then, suddenly, you see the figure again, in front of you now. They wave at you and ask for assistance, but you turn around and start moving faster now, first pacing and soon running. You look behind you and see the figure now charging at you. You scream for help, but in the midst of attempting to lose them the first time, you're not entirely sure where you are and everything around you is still and quiet. Before you have time to properly react, the figure catches up to you, and covers your head with multiple plastic bags. You struggle to breathe and soon, everything goes dark until you're found the next morning next to a recycling bin down the street, with an empty bottle of iced tea in your lap.

This, as conclusively as possible, was the tragic ending of Marcus Wilborn's life, now deceased at 26 years old. Although investigators first struggled to find a motive for the killing, it became evident as the bodies of more victims – Daniel Vanhoff, Jeanette Everett, and Sara Friesen – appeared throughout the city, all left against a bin with a plastic bag over their head and one or two recyclable items on their person. It now looked as though the Minneapolis Police Department were searching for a suspect with a strong disdain for those who didn't recycle – powerful enough to murder them for it. They didn't rule out the possibility of multiple suspects, but, given the methodology of these crimes, they decided to move forward in their search for a lone perpetrator. While the police department initially tried to keep details relating to the case unknown to the public, information leaked out to the press and a local Minneapolis newspaper, the *Star Tribune*, published a front page story by Vickie Fowler entitled, "The Recycler: Minneapolis' Newest Serial Killer" (Fowler 1).

Though she received praise from her coworkers and peers for releasing the information, the Minneapolis Police Department was not please, citing that Fowler "overwhelmingly compromised the investigation at hand, carelessly incited public panic, and should be held responsible for any further murders," (Jenkins). Almost immediately afterwards, the statement against Fowler was retracted, along with a formal apology and a call for patience and caution within the greater Minneapolis community. Some Minneapolitans, however, agreed with the police department's initial statements, arguing that Fowler could have put the city at greater risk by notifying the killer of the department's progress. "Well, something had to be done about the situation – our citizens were dying, and they deserved to know why," Fowler explained, when discussing why she published the story. "Our police department, as always, was being less than forthcoming with us, and if there was something – anything – we could do to prevent these slayings from happening, then by God, I was going to write about that." Regardless of one's views on the danger of the news' publication, the information was now available to the public, who subsequently reacted in polarizing ways.

Some Minneapolitans suggested that the killings were a positive thing for the community, in that it raised awareness towards the issue of city waste and, in fact, encouraged more people to recycle on a

regular basis. Many strong Democratic politicians and community leaders also held this view, albeit to a lesser extent. Though they didn't condone the murdering of innocent civilians, many, such as Senator Al Franken, thought that the killings could be used to bring about new policies which enforced stricter regulations on waste disposal, as well as offering more renewable energy opportunities for Minnesota ("Is the Recycler Good for Our Community?"). In a late 2007 online poll, it was shown that 43% of Minneapolitans thought the four murders could be seen as a greater good, with 38% on the fence about the issue and only 19% fully denouncing the killings (*MinnPost* 2007).

However, not all of Minneapolis agreed with the potential benefits of what was now being referred to as the "recyclable murders." Family and friends of the four victims called for a greater effort to find the killer, as the police department was unable to narrow down a potential list of suspects due to the murderer's atypical motivations and methods. They brought in specialists from a federal level to assist them in the case, but crime scenes lacked evidence and each victim had been suffocated with plastic bags from local grocery stores, though none of them reported any unusual customers as of late. Since the murders had occurred late at night and in back areas, there also hadn't been any witnesses. With no leads or new murders to examine, investigators now found themselves at a dead end.

Meanwhile, another group opposed to the recyclable murders began to arise; David Fletcher, a lifelong resident of the Greater Minneapolis area, felt betrayed by his community's indifferent response toward the murders and was angered that recycling seemed to be prioritized over someone's life. Fletcher, along with a small group of other disenchanted Minneapolitans, began a group which they called Minneapolitans Against Recycling, or MAR as shorthand. In a locally broadcast interview, Fletcher explained his reasoning behind the group's formation:

As a Minneapolitan and as an American, it's absolutely baffling to me that we're politicizing [the tragedy of] death and suffering of our fellow man for something as silly as recycling. I mean, we live in a free country, and I pay my taxes [...] I do my job, I feed my family, I protect my children [...] whether or not we choose to recycle should be exactly that: our goddamned choice. So what if I choose not to recycle? Who am I hurting – "Mother Earth"? What has "she" ever done for

me? Meanwhile, people are dying and nobody seems to care [...] all that's being talked about is the goddamned environment. You know what though? When we recycle, guess who we are hurting? Homeless people! I mean, just think about it – they collect cans and shit from the trash for change, right? But how are they supposed to do that if we're recycling them all? But hey, nobody gives a damn about them, though, 'fuck our fellow man.' [...] It's just absolutely baffling to me. (Fletcher)

Although many Minneapolitans largely denounced and ignored MAR's protests, some actually agreed with the basics of Fletcher's message and supported the group's efforts. Members and supporters alike would organize peaceful demonstrations in downtown Minneapolis, bringing any recyclables they could find and throwing them in specifically marked garbage bins, often with the names of the Recycler's victims written on the items in marker. Occasionally, Minneapolitans who supported the city's efforts to encourage recycling would counter protest, moving the discarded items into the appropriate bins – MAR supporters would then retaliate by pelting counter protestors with empty bottles and cans, once causing the police department to arrive and break up both demonstrations. Fletcher would often publicly detract the police as being "in the Recycler's pocket," (*Minneapolitans Against Recycling*) and later began to believe that they may have, in fact, been the perpetrators of the murders.

Suddenly, two years after the 2007 murders, David Fletcher was found dead in an alleyway of downtown Minneapolis, with a piece of paper nailed through a plastic bag to his forehead which stated, "I'm still here." The cause of death, just like the others, had been suffocation. Investigators quickly called in federal assistance to examine the crime scene, and even searched nearby security camera footage in hopes that they would finally catch the killer of those four civilians in 2007, and now Fletcher in 2009, but ultimately came up with nothing once again. Many Minneapolitans were uncooperative during questioning, as they believed the death of Fletch to be a service to the city, and, although they initially protested fiercely for further examination by independent investigators, MAR began to split apart without a proper succession in leadership. Gabe Eckert, a close friend of Fletcher's, questioned the city's role in his friend's death: "I think [the city] did it to cover up what they knew Dave was onto – what he publicly said he was onto [...] they murdered their own people, just to have an

excuse to bring up some bullshit legislation [...] when they knew he knew what he knew, he had to go" ("Who Killed David Fletcher?") Unfortunately, there was never any evidence to support Eckert's claims, and so he was soon dismissed as just another theorist in a city with an abundance of possibilities to the identity of the Recycler.

In the 10 years since the Recycler infamously gained their reputation, the Minneapolis Police Department, as well as the Federal Bureau of Investigations, still have no leads into the killer's identity. Although there have been a series of small copycat killers in the years following, such as Jessica Oswald, a self-professed vegan who killed and consumed parts of two meat eating friends, claiming to be inspired by the Recycler's bold action (Hawkins), they have all been quickly caught and brought to justice. Only the Recycler remains a mystery for Minneapolis city officials and civilians alike, with many personal theories often being shared throughout the city like gossip. Gretchen Meiser, an elderly citizen of Minneapolis, says that the influence of the Recycler remains powerful to this day:

You always hear stories pop up now and then, you know? Somebody will go to throw a plastic bottle away in the trash can, and their friend'll say, 'Oh, you better not! What if the Recycler's watching?' and then they'll take the bottle and look for a bin nearby. It feels like a silly myth, even just 10 years later, but you can tell that it's still in our minds; it's still something we think about when we go about our daily lives, whether we know it or not. Not a lot of people still talk about it that often today, but it's still scary. You never know who it might have been, or who it might still be. What if it was someone we know? (Meiser)

As the case is still officially open, there is a possibility of new information coming to light, and both the Minneapolis Police Department and the Federal Bureau of Investigations encourage all readers to contact the anonymous tip line, 612-692-TIPS (8477) or 1-800-CALL-FBI (225-5324). Perhaps, one day, the identity of the Recycler shall be revealed; yet, for now, it continues to be a mystery and so it shall remain until new evidence or testimony compels investigators to return.

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Contributors

Kaitlinn Chase is a senior at Washburn University majoring in psychology and minoring in criminal justice. Kaitlinn is originally from Meriden, Kansas. Her research interests primarily lie within the clinical and social subfields of psychology. More specifically, she is interested in early childhood trauma and how it affects development, learning, and memory. After graduation, Kaitlinn hopes to attend graduate school to become a Licensed Masters Level Psychologist (LMLP).

Whitney Clum is a senior forensic investigations major at Washburn University. She spends her free time writing, drinking tea, and reading every book that displays its tempting little face. One of her favorite things to learn about is the interweavings between history and mythology.

Mikaela Cox is seeking her Bachelor's degree in health services administration and minoring in poverty studies. She will also begin seeking her associate degree through the physical therapist assistant program in the fall. As an Ichabod, she is a member of both the honors college and the LinC Bonner Scholar program.

Whitney Downing is a freshman at Washburn University and is a first generation college student. She is currently undecided on her major. Whit loves Rubik's Cubes, and collects them. As a person with autism and struggles with depression, Whit is passionate about mental health advocacy and suicide prevention. She enjoys writing and looks forward to taking more writing classes during her college experience.

Kayli Goodheart is a senior at Washburn University from Hutchinson, Kansas, studying forensic investigation. She is the campus and community affairs director for the Washburn Student Government Association, president of Zeta Tau Alpha, and a two-year summer orientation counselor. Kayli has enjoyed experiential education through her internship with the Wichita Police Department this past summer and is excited to complete another criminal justice internship this school year.

Mary P. Greene is a graduate of St. Mary's College where she earned an associate degree in liberal arts. She is currently pursuing a bachelor's degree in mathematics with an emphasis in secondary education at Washburn University. In the spring of 2019, at the National Council for Undergraduate Women in Mathematics, Mary presented her work on assisting in the development of a game design course. After graduation next year, Mary plans on pursuing her studies in mathematics education at the graduate level.

Dorethy Hancock is an audit student who never painted until taking Washburn classes at age 65. She loves the energy of color, using multiple media; and does energetic healing with the vibrations of sound and color. Prior to graphic arts, she spent her artistic endeavors in the field of music, most notably singing the Mozart Requiem with a large chorus in Carnegie Hall. She retired as a reference librarian in 2000 from Topeka & Shawnee County Public Library.

Tomohiro Ichikawa graduated *magna cum laude* from Washburn University with his bachelor's degree in the spring of 2019. Tomorhiro is originally from Kyoto, Japan. He loves studying psychology,

Gabrielle Kentch graduated high school from Cair Paravel Latin school. She is currently attending Washburn University pursuing a BA in psychology with a minor in philosophy. She plans to graduate in December, 2019 and attend graduate school to pursue a PhD in clinical psychology in the fall of 2020.

Kyra Miller, originally from Valley Falls, KS, is currently a senior at Washburn University. Kyra has been drawing since a very young age, leading her to pursue a bachelor's degree in fine arts with an emphasis in drawing and painting. She enjoys participating in art sales and community events with the Washburn Art Club.

Alex Montgomery is a computer science major with a minor in mathematics at Washburn University. Alex grew up on a farm in small-town Sabetha, KS and has been working on developing computer programs to retrieve and display digital artifacts while at Washburn.

Madysen Mooradian is a Kansas native and grew up in the city of Meriden before moving to Topeka. Madysen attended Washburn Institute of Technology from 2014-2015 and graduated with a

certificate in culinary arts. While at WIT she competed in SkillsUSA and won a bronze medal for baking, as well as being admitted into the National Technical Honor Society. She is currently a full time student at Washburn University, working for a degree in anthropology. She is an active member of the student organization God's Bods and has been on their student leadership team since 2016. During the spring semester of 2016 Madysen completed an internship with the Disney College Program in Florida. Madysen volunteers with Meals on Wheels, local tennis coaching, Washburn's Catholic Campus Center, and Let's Help Homeless Shelter. In her spare time, Madysen enjoys backpacking, kayaking, running, and traveling.

Molly Murphy has completed a philosophy degree from Seattle Pacific University and an English literature degree from Washburn. She is very grateful to have had these educational opportunities and hopes to attend graduate school in the future to continue studying literary theory.

A lifelong resident of Topeka, Kansas, **Ethan Nelson** is a freshman attending Washburn University, where he is majoring in English with an emphasis in creative writing. Literary fiction is his favorite genre of writing, and some of his favorite authors include William Faulkner, Willa Cather, and Cormac McCarthy. Besides reading and writing, Ethan enjoys listening to music, alternative rock in particular, and his work on-campus as a Student Ambassador.

Taylor Nickel is a second year student majoring in forensic anthropology at Washburn. Originally from the Wichita, KS area, Taylor enjoys writing, as well as learning about biology, forensic science, and anthropology subjects. She is also a member of the Washburn Debate Team.

Lydia Shontz is a second-year senior at Washburn University majoring in psychology. Lydia is originally from Lawrence, Kansas. After graduating from Washburn, Lydia hopes to attend the KU School of Social Psychology graduate program, with a focus on political psychology. Her research interests include social power and dominance, social influence, and conforming behaviors. For the past two years, her research has focused on conspiratorial ideologies. This article is study one in what will ultimately be a three-study collection for her senior capstone project.

Gordon Smith is a sophomore human services major at Washburn. Originally from Springfield, IL, Gordon works full-time as a Kansas certified peer mentor for Heartland RADAC, a position which allows him to help people in his community live life free from alcohol and drugs.

Zandra Sneed-Dawkins is a retired veteran and a senior enrolled in the bachelor of fine arts program with an emphasis on painting and drawing at Washburn University.

Hi Stockwell graduated from Washburn in 1959 with speech/communications degree, majoring in theatre. Today, Hi is located at Studio 831 in the NOTO Art District in Topeka. Hi appreciates the opportunities that Washburn gives senior citizens through their auditing programs. The painting “Desert Paintbrush” recently received a finalist award from the Scottsdale, AZ., Camelback Gallery.

Kody Stadler is a writer and photographer presently residing in Topeka, Kansas. His writing has appeared in *Inscape* and *Quail Bell Magazine*; his photographs have been displayed in the Mulvane Art Museum, Two Wolves Studio, and coffee shops nearby.

Sydney Watters came to Washburn from a small town in Kansas called Brookville. She is involved with Ecobods, the honors program, and various gardening projects across campus. Writing has always been one of her passions, along with reading, gardening, and painting.

Jaime Weible is a senior psychology major at Washburn and was a member of the Washburn volleyball team. Jaime plans to pursue a doctorate degree in occupational therapy. She had fun exploring her inner creativity within poetry last Fall and plans to use it in her future career.

Savannah Workman, from Wichita, Kansas, is studying mass media journalism at Washburn University and minoring in Spanish. Savannah has a strong work ethic, which she has learned from her family, and she freelances for the *Washburn Review*, while balancing a strong dedication to academics. Savannah’s goal for the future is to enhance her writing while learning about the community through volunteer experiences, so that she can eventually work for *National Geographic*.

Janet Zoble is a “senior” student who has enjoyed a nearly fifty-year career in graphic design, bronze sculpture and painting. She taught computer graphics as an adjunct at WU for 12 years. Now in semi-retirement she is enjoying getting back to her painting roots.

