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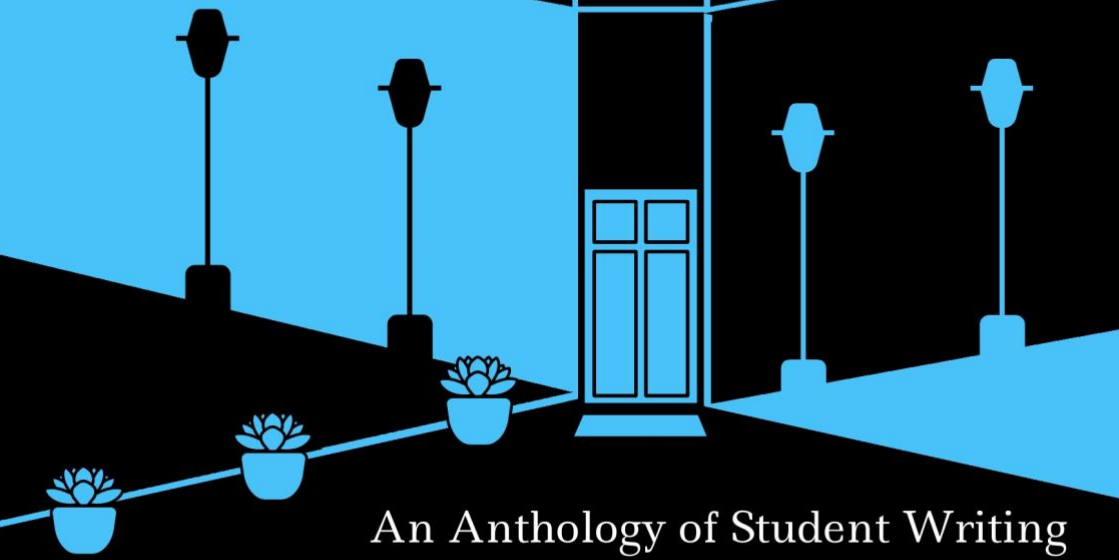

An Anthology of Student Writing

vol. 14

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An Anthology of *Student Writing*, vol. 14

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About This Anthology

This collection represents the voices of your peers, the over 2,000 students who enroll each academic year in Utah State University's second-year composition course, *English 2010, Intermediate Writing: Research Writing in a Persuasive Mode*. These emerging writers learned that writing is a process, and they worked diligently to arrive at the final products you will read here. Their writing processes involved drafts, revisions, and careful edits.

The students published in this book were enrolled in the same class that you now attend. They started where you started. They learned, as you will, to seek help from their peers, instructors, and other resources to achieve success in their writing.

This writing class encourages each of you to develop an appreciation for the power of words, research, creation, and persuasion. The publication of this anthology makes that a tangible reality. These essays sometimes are personal, sometimes advocate for change, and sometimes include research—but they each have power in their words. We invite you to join their conversations and hope that they will inspire, challenge, and motivate you to produce your best writing.

Acknowledgements

Many people make *Voices* possible. We would first like to thank our student authors. We thank you for having the courage to submit your work, and we are honored to publish it.

This book is only possible through the efforts of our composition faculty. Thank you for encouraging your students to submit their writing.

Our deepest gratitude also goes to USU's English Department and Writing Center for their support of this publication.

The previous directors of *Voices* also deserve a huge thanks for creating and continuing a program that offers students the opportunities to publish and to present their work:

Susan Andersen (2008-09, 2011-13)
John Engler (2008-10, 2014-17)
Bonnie Moore (2011-17)
Susan Pesti-Strobel (2009-10)

Playing a Rigged Game: Considering College Athletes and Pay

Grant Huff

This essay was composed in April 2021 and uses MLA documentation.

Let's begin by having you, the reader, run through a hypothetical situation. Imagine that you are a college student; many of you are college students or have been, so this should be easy to do. Now, imagine that you have been awarded with a prestigious scholarship that fully covers any cost associated with your schooling. As a condition of this scholarship, you are required to do an unpaid internship through the university, and although it may be somewhat unusual, this internship requires that you work the hours of a full-time job. How would this affect your schoolwork? How would you feel about the unpaid hours you spend working outside of class? Welcome to the life of a college athlete.

Why We Shouldn't Pay College Athletes

The argument of whether or not college athletes should be compensated has been a hot topic of debate for many years, but recently there have been many calls for reform in the way that the NCAA treats their student athletes. Although many people support compensation for college athletes, many also disagree for a number of reasons.

Interestingly enough, one of those in disagreement is a young man named Rey Green, a college athlete himself. He doesn't think college athletes should be paid because

> as a student athlete you are offered scholarships that completely cover tuition, room and board, meal plans and fees. That means after college they will leave their university with a degree and no student loans. Knowledge is power and that's why education is more valuable than money. (Green)

Of the reasons used to support student athletes not being paid, this is one of the most common. Many people question, *Aren't athletes already compensated? They get to go to school for a free and play a sport they love! Why should they get paid if they are just going to make millions of dollars in professional sports?* When you start looking into the details, it isn't so cut and dry, but there are some legitimate concerns with paying college athletes.

When interviewing my peers, new questions arose: *Would all athletes be compensated? Which sports would provide compensation? If you compensated athletes, what would happen to the programs that don't generate*

revenue? Would the amount differ from school to school? Would the amount differ from athlete to athlete, or would it be an equal rate? Why should the average student care about this? These questions hint at some of the possible problems that could arise. Realistically, I don't believe that paying athletes is the right choice for every university. Almost all other sports programs are funded by the men's basketball and football programs, and some schools can handle that with plenty of money to spare, but at a school like USU, the athletics programs do not generate enough revenue to fund all of their programs and to pay the athletes as well. In an average year, Utah State University makes around $21,510,746 from their sports programs, only two of which pay for themselves—the men's basketball and football programs, as with most other schools—but all of the money generated goes directly to programs and facilities (*Utah State University Sports*). If Utah State were to begin paying all of their athletes, they would have to cut programs to provide the necessary funds. The case is the same with many other university sports programs. So, as it stands it just wouldn't be feasible for a number of universities to provide compensation.

The Billion-Dollar Industry of College Sports

That being said, smaller schools and programs are not the problem. That's not where the money is being made, and that's not where the athletes are being taken advantage of. There is a whole other world of college sports, the world of "high-major" conferences. For men's football, these would

be the Power Five conferences, and for men's basketball there are 6-8 conferences that would be considered high-major.

These conferences, and the teams held within, are the highest level of competition that the NCAA has to offer. Your favorite teams are probably in the mix. Millions of Americans watch their games every season in the stadiums or from their couches. The deals with the TV networks, the jersey sales, the ticket sales—all of these contribute to the money-making machine college sports have become. Starting in the 2016-2017 academic year, the NCAA earned $1 billion in revenue for the first time in history. The organization then went on to do the same in the following two years. In the 2019-2020 academic year, revenue was halved due to the ongoing COVID-19 pandemic—still leaving the NCAA making $500 million (Gough). Another interesting detail worth pointing out is the fact that college athletes are prohibited from profiting off of their names, images, or likenesses (NIL). The NCAA took steps last year that could allow athletes to profit from NIL as early as the 2021-2022 academic year. However, until that change takes place, even the money that is directly linked to specific players because of jersey sales and video game representations will continue to go to the NCAA.

It's clear that the NCAA makes a great deal of money and will continue to do so, but let's look at a few more numbers. I previously mentioned the Power Five conferences for football as well the various conferences for basketball that are considered high-major. Collectively, these conferences are also generating enormous sums of

money. In 2019, the Power Five conferences had over $2.9 billion in revenue (Berkowitz), and as individual programs, the schools that make up those conferences grossed $7.6 billion the year prior (Murphy 5). No matter what way you look at it, that's a lot of money, and that's just one year. There is also a huge imbalance between the percentage of that money that goes into coaches' salaries and the percentage that returns to the players through student aid. Roughly 12% of these funds are spent on student aid for the 45,000 Power Five student-athletes, and 16% is spent on the salaries of 4,400 head and assistant coaches (Murphy 7). To make the math slightly easier to understand, that means that the average coach is considered to be 13 times more valuable than the average athlete, although when you begin looking at the salaries of head coaches in the Power Five conferences, that number shoots way up. The average head coach in a Power Five conference makes $4.4 million annually, with the highest paid coach making upwards of $9 million. It's hard to look at the figures and see any notion of fair treatment for student athletes. In an article by Chris Murphy about the financial situation of college sports, he states,

> [I]f a budget is a reflection of an institution's values, these programs simply believe that coaches and even edifices are far more valuable than the student-athletes who provide all the labor. (7)

Seeing these numbers may cause one to question why the NCAA refuses to pay their athletes when so much money is being made. The NCAA claims amateurism as their reason for why they won't pay their athletes, and it states in the 2020-2021 NCAA Division I Manual that

> student-athletes shall be amateurs in an intercollegiate sport, and their participation should be motivated primarily by education and by the physical, mental and social benefits to be derived. (NCAA 3)

So, the NCAA claims that athletes should be motivated primarily by education, but it isn't that simple for your average college athlete, even if you play at a Power Five school.

The Life of a College Athlete

There are numerous reasons it can be very difficult for athletes to value purely the education and benefits that they receive, and that is one of the major problems with college sports currently. What kind of education are Division I athletes really getting? Research shows that it certainly isn't equal to that of their fellow students. The first impediment to their education is the amount of time they spend on their sport, outside of class and other responsibilities, every week. Athletes have the time commitment of a full-time job. As reported by the National College Players Association, "NCAA surveys found that college athletes spend anywhere from 30-44hrs/week in their sport" (NCPA). General consensus across multiple surveys shows that most Division I athletes spend 40 or more hours per week on their sport. And according to a survey reported by NCSA, a recruiting organization for college athletes, there is a call for athletes to spend even more time on their sport:

> Division I student-athletes believe they are overworked, while coaches, whose jobs depend on

> winning, think their players should dedicate more time to athletics. (Frank)

As a college student myself, I know how difficult it would be to perform well academically if those kind of time commitments were required of me.

The time commitments cause other problems to arise as well. Because of the difficulty athletes experience maintaining academic eligibility, many schools find ways to overlook shortcomings, prioritizing their athletic abilities over the responsibility of the institution to provide a quality education. In 2010, a large academic scandal was uncovered at the University of North Carolina (UNC). UNC created a department called Afro-American Studies: a program filled with 200 courses of subpar curriculum to allow athletes to meet academic requirements at the university (Edwards). This is the type of culture that college sports promote.

So, what happens to these athletes when they leave the university? Many people assume that they'll be fine, they're going to play professional sports anyway, right? The truth is, they probably won't. As reported by the NCAA, for men's football and men's basketball, less than 2% of athletes will be drafted into the professional leagues (NCAA). When an athlete doesn't realize their dream of playing professional sports, what are they left with? No degree? An imitation of a degree? While they lay their body on the line for their team and for the school, athletes' dreams are sometimes cut short due to injury, possibly resulting in loss of their scholarship. No degree, no plans,

and medical bills they will be paying for years, but at least for a time they had that scholarship and a stipend, right?

This isn't true in all cases, but for many, the NCAA has become a system to bring in athletes, use their talents to create value, and then spit them back into society with nearly nothing to show for it. We need to do better.

The Case for Compensation

It is long past time for change, and it's time that athletes are given what they deserve. The NCAA's claim of amateurism is merely a façade used to justify the billions of dollars that they receive thanks to the athletes who provide the labor. If we look at the situation objectively, we can see that nothing about college sports is amateur. Professional athletes on average spend 40 hours on their sport per week, and college athletes are doing the same (BLS). College coaches are being paid professional-level salaries. Steve Kerr, arguably one of the best NBA head coaches of our generation, earns $5 million annually. Kyle Whittingham, the head football coach for the University of Utah, also has a $5 million salary. In 2019, college sports programs had generated over $14 billion in revenue. That's more than any professional league in the world aside from the NFL (Murphy). In early 2019, the tickets to see the Duke-UNC basketball rivalry games sold for an average of $4,000. That's as much as ticket to the Super Bowl or the NBA Finals. When you require athletes to work a professional number of hours, and when there is certainly a professional amount of money being made, you cannot ethically continue to treat them as amateurs.

A Proposed Solution

There isn't a great way to solve this problem immediately, and I suppose that may be part of the reason that change takes so long to happen, but there is a place to start. It could be as simple as starting athletes out with a salary of $25,000-$40,000 per year, depending on the success of the program. This salary would allow athletes to have a little more money to figure things out when they don't move on to professional sports, and for many of the athletes who come from low-income backgrounds, this would allow them to begin helping their families even before their career has officially started. If athletic programs were to pay 40 of the football players on a team a salary of $25,000 per year, that amounts to $1 million. When even the least successful football teams in the Power 5 conferences are making $20 million each year, that would leave a lot of money to go around.

Another option that has been discussed is allowing players to earn a degree through their sport. Athletes already spend so much time on their sport, if schools increased the hours through classes and changed the format of the programs, players could earn degrees in sports management, sports medicine, coaching, or other areas that would allow them to continue their careers even when their time as an athlete is complete.

College athletes need a new system. I think Chris Murphy said it perfectly in a statement he made in March of 2019:

> They deserve to receive fair compensation for their work. They deserve a system that guarantees a meaningful education as well as financial security. They deserve a system that shows real concern for their health and well-being, both during and well after their time on the field. Simply, they deserve a system that respects their contribution and dedication. (13)

I do not know the perfect solution, but I do know that it's time for change. It's time to end a rigged game. ❑

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Electric Vehicles: The Future of the Automobile Industry

Drew Larkin

This essay was composed in April 2021 and uses APA documentation.

As the automotive industry innovates and progresses, are electric vehicles the way of the future? Society as a whole is moving toward electric vehicles, which have positive impacts that are currently outweighed by the negatives. They are only as clean as the electricity that runs them, and their battery mining and manufacturing have a negative effect on the environment. Alongside the negative natural effects on our surroundings, electric vehicles are expensive and out of the price range of most consumers.

Cars have been around since the late 1800s, and for the most part, they have been primarily run on internal combustion engines that run on fossil fuels. The first modern electric vehicle (EV) was designed in 1996, and

they have become more popular ever since. To better understand EVs, we need to understand how a gasoline engine car functions and how EVs function mechanically. Small controlled explosions within an engine make a gasoline car function and are called internal combustion engines. The car is filled up with gasoline, which is a fossil fuel, and that fuel is combusted with air that is gathered from an intake to push pistons that rotate a drive shaft that rotates the tires. The leftover gas from the combustions is then filtered and released out of the exhaust into the air outside. It is important to note that internal combustion engines also need many other fluids which are oil-based to run the car. Now with electric vehicles, they are quite simple. Giant batteries are built into the car which run small motors that are directly attached to the wheels. Instead of filling up your car with fuel at a gas station, you simply plug the car into a charging point that recharges the batteries.

At the start of 2021, President Biden signed a bill that will replace the U.S. government fleet of around 650,000 vehicles with new electric models that would help a shift to cleaner energy. He has also signed other bills that are going to fund infrastructure that will grow the EV charging network in the U.S. (Duffy, 2021). Many other countries in the world are also moving towards EVs. For example, France and the UK have put into place non-electric vehicle bans that must be complied with by 2040. Norway and the Netherlands have ordered that after the year 2025, all car sales must be zero-emission vehicles (Daniel, 2021). These are just a few examples, but many countries are moving in the same direction. Big companies are also jumping on the

EV trend. The retail giant Amazon ordered 100,000 electric vans in 2020 to start replacing their fleet of delivery vehicles. Other delivery companies like FedEx and UPS have also promised to replace their fleets with electric vehicles within the next 20 years (Domonoske, 2021).

With the big push around the world towards EVs, it's important to look at all the pros and cons of the new change. Electric vehicles are good, but currently, they run off almost the same emissions as gasoline cars and have many limitations for normal consumers. Even though EVs don't run on fuel, they are charged by electricity that is generated mainly by coal and natural gas, which are big polluters. In today's market, EVs are expensive and out of the price range of the average consumer, and they also aren't a great fit with everyone, especially with their limiting ranges. The production of EVs and especially their batteries also have a big toll on the environment.

All vehicles have some kind of emissions, and in research, it is called Well-to-Wheel emissions. According to the U.S. Department of Energy (n.d.), these emissions

> include all emissions related to fuel production, processing, distribution, and use. In the case of gasoline, emissions are produced while extracting petroleum from the earth, refining it, distributing the fuel to stations, and burning it in vehicles. In the case of electricity, most electric power plants produce emissions, and there are additional emissions associated with the extraction, processing, and

distribution of the primary energy sources they use for electricity production.

While most people consider gasoline engines to be detrimental to the environment, they neglect to consider that EVs can also have that same effect. Electric vehicles are only as clean as the energy that is used to charge them. In the U.S., about 60% of all power that is being produced is coming from power plants running off fossil fuels, such as coal and natural gas. A visualization of the data is presented in Figure 1. In states like California, that percentage is a lot lower, but for example, Utah has upwards of 85% of its power produced by fossil fuels (Department of Energy n.d.). In turn, EVs aren't directly polluting the environment, but they are far from running clean.

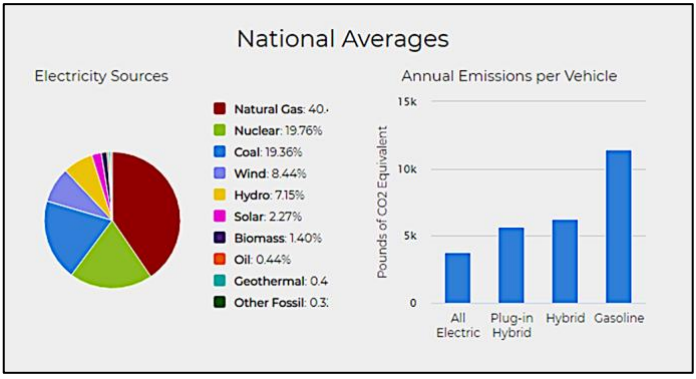

Figure 1. U.S. Power Distribution Statistics

The Netherlands is a great example of this discussion. In the city of Rotterdam, non-electric cars will soon be banned from the city center. This would be good for the air quality,

if not for the three new coal-fired power plants outside the city. As cities such as this in the world try to reduce greenhouse-gas emissions by moving towards electric vehicles, there is also a huge increase in the need for power to run these vehicles. The average EV consumes the same amount of electricity in one charge as a normal refrigerator consumes in a month and a half (Birnbaum, 2015). It's easy to see why so much new energy is going to be needed in the future to charge all these new EVs. In some cases, the overall climate impact might worsen rather than get better as the need for power increases. Coal is the easiest and cheapest way to produce power, so it makes sense that it continues to be the primary source of energy around the world, especially in more developing countries.

Most of the batteries that are being installed into newer EVs are lithium-ion batteries. Eckart (2017) notes,

> Producing an electric vehicle contributes, on average, twice as much to global warming potential and uses double the amount of energy than producing a combustion engine car. This is mainly because of its battery. Battery production uses a lot of energy, from the extraction of raw materials to the electricity consumed in manufacture. The bigger the electric car and its range, the more battery cells are needed to power it, and consequently the more carbon produced.

The two biggest environmental tolls from batteries are the mining of the materials needed and the recycling or scraping of the batteries themselves.

The effects of mining for the needed raw materials are felt around the world. There have been toxic spills and water shortages in Latin America, polluted rivers in Russia, air pollution in northeastern China, toxic dust/fumes and wastewater being released in the Congo, and many other cases of disaster (Eckart, 2017). Katwala (2018) explained more in-depth the situation in Latin America:

> In South America, the biggest problem is water. The continent's Lithium Triangle, which covers parts of Argentina, Bolivia, and Chile, holds more than half the world's supply of the metal beneath its otherworldly salt flats. It's also one of the driest places on earth. That's a real issue because to extract lithium, miners start by drilling a hole in the salt flats and pumping salty, mineral-rich brine to the surface.
>
> …
>
> It's a relatively cheap and effective process, but it uses a lot of water – approximately 500,000 gallons per ton of lithium. In Chile's Salar de Atacama, mining activities consumed 65 percent of the region's water. That is having a big impact on local farmers – who grow quinoa and herd llamas – in an area where some communities already have to get water driven in from elsewhere.

So, while consumers enjoy their new electric vehicles, they neglect to consider the people who are affected by mineral mining and other productions.

The other main problem with EV batteries is the recycling process. The problem can be attested to the new

market that is being created to do so because EVs have not been around long and there hasn't been much of a need to dispose of old batteries until now. There simply has not been enough time since the boom of electric cars to develop good battery-recycling processes. In turn, it is expensive to recycle these batteries, so in most cases, they are being scrapped instead, which always runs the risk of pollution and other problems that might arise.

Up to this point, the negative environmental impact of EVs is what has been mostly covered, but specific problems also impact the common consumers themselves. The biggest problem is the purchase of the EV itself. According to *Quartz*, the average cost of a new car in June 2019 in the U.S. was $36,600. This was a 2% increase from the year before. However, according to data from Cox Automotive, the average cost of an electric vehicle decreased from $64,300 to $55,600: a 13.4% decrease from the year before (Hearst Autos Research). That is a $19,000 difference between gasoline and electric vehicles! Though the cost of EVs is decreasing at a good rate, it will take time for the technology to advance enough to bring down the price to a gasoline vehicle. When you convert that to monthly car payments, you would be paying $450 more a month for a new EV than you would for a new gasoline powered vehicle. According to the U.S. Census Bureau, the average household income in the U.S. was $68,703 in 2019, and if you compare that to the average EV price, the vehicle would be a little over 80% of that annual income.

Another topic up for discussion is the range limitations for electric vehicles or how far EVs can travel on

a single charge. The term *range anxiety* has become more popular with the increase of EVs. It is defined as the worry of a person driving an electric car that the battery will run out of power before the destination or a suitable charging point is reached. In studies done, common responses for range anxiety are: "I like to drive long distances so electric cars feel like a waste of money," and "I have places to go and I am able to get there" (Brase, 2017). In 2020, the median range for an EV was about 250 miles with the maximum range of 380 miles by the Tesla X/S models. For most individuals and families, 250 miles is not sufficient, especially if they are going on long trips. Trying to find a charging station often adds an extra degree of frustration. A lot of the time, they are out of the way when needing to get to your destination. Once you get there, instead of spending five minutes to fill up your car, you could be waiting up to two hours for your car to charge before you can continue your journey.

Though there are many negatives to electric vehicles at this point, they aren't all bad. There wouldn't be such a big push by companies and nations around the world to move towards EVs if there wasn't reason behind the movement. According to Sperling (2018),

> In the last three decades, electric vehicles (EVs) have vastly improved in every way – in cost, performance, efficiency, styling, and availability to consumers. For the first time in history, electric vehicles are in many ways equal to gasoline cars (though not yet in cost). And they are superior in quietness and driving experience for most drivers, according to surveys.

As time goes on, this trend will only continue. One big factor is battery development, which makes up the biggest cost in manufacturing EVs. With the new Tesla Gigafactory in Nevada and others like it being constructed around the world, we should see a big improvement in the battery industry, which will decrease the price of EVs, extend their range, and increase the safety of the vehicles. With these major problems being resolved, the popularity of electric vehicles will increase significantly.

Many consumers don't see an EV as the best fit for them, but they are a good option for many consumers. For example, if you just need a vehicle to use around town, an EV would be cheaper to run and would most likely be a more comfortable experience. If you wanted to take it on a longer trip, you could plan out your journey to use available charging stations along the way. Another plus for electric vehicles is their growing performance abilities. Driving a plug-in car is exciting. They offer instantaneous torque and quiet acceleration. EVs are highly efficient with benefits like regenerative braking, and many have smart features, such as connectivity. The Tesla Model S also has a 0-60 mph time of 2.3 seconds, which is faster than any gasoline vehicle on the market. Along with performance, EVs have a higher carbon footprint when being manufactured, but later in its lifecycle, it becomes cleaner than traditional combustion engines (Eckart, 2017).

When it comes down to buying a new vehicle, it might be easy to fall into the social trap of buying an EV, but hopefully, all the aspects can now be weighed. Currently,

the overall negatives outweigh the positives. According to Eckart (2017),

> Once in use, an electric vehicle is only as green as the electricity that feeds its battery. A coal-powered battery is dirtier than a solar-powered battery. Governments can help by speeding up their transition to greener energy.

If, as a society, we can focus on cleaner energy and cleaner battery production, electric cars will become a much more viable option. With time, more development will also be done by companies around the world, and with successes to come, the prices of EVs will become more reasonable for the common consumer, and they will be better for families and individuals that travel frequently. As we move into the future, electric vehicles will be a great way for us as a society to combat carbon emissions and to use them as transportation. For now, though, they are doing more harm than good, and changes must be made as the industry advances. ❑

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Transportation and Mental Health: How Perception Modifies Well-Being

Matt Armbrust

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Back to the Future Part II (1989) predicted that people would be soaring through the sky in state-of-the-art flying cars, but a quick glance outside reveals the disappointing reality of modern transport. Even though flying cars and hoverboards may be unrealistic expectations, progress in the way we travel has become relatively stagnant. Quality of public transportation is the part of society that is commonly overlooked by not only everyday citizens but policymakers as well. Commuting is as much a part of our daily routine as brushing our teeth or taking a shower in the morning;

we do not think twice about how we travel to school or to work which contributes to the overall lack of awareness concerning our transportation system. However, personal perception of the quality of modes of transportation has a significant impact on the mental health of individual commuters whether it is realized or not. These implications are not observed consciously; they instead lie within an intricate relationship between public transportation and mental health that involves an array of factors. Researching these factors may reveal possible solutions that could be adopted by policymakers to improve the commuting experience of citizens. In turn, a more satisfied population could promote engagement and productivity in society and the workplace.

Interestingly, the perception alone of the quality of localized transportation is enough to elicit a psychological response in frequent commuters. A study conducted in the United Kingdom found that "frequent users of public transport would be more likely to have better mental health" (Feng et al.). A prerequisite for being a recurring customer of public transportation is for such commuters to have a positive perception of transportation quality. Today, the notion that public transport modes are deplorable, inconvenient, or unsafe has become an archetype of our society. The stigma associated with those people who rely on public transport, such as buses or trains, is often enough to deter distinct demographics from engaging in public transport as well. Yet, the United Kingdom study still found that commuters who frequent public transport have better mental health states when compared to those who do not. This claim was corroborated by three distinct mental

health scales, where participants with varying perceptions of public transport infrastructure (PPTI) were analyzed. The study found that "those who felt [PPTI] was excellent were 1.29 times more likely to be frequent users of public transport…and found to be consistently associated with better mental health" (Feng et al.). Hence, the quality of public transportation is a large determining factor on its usage and can even negatively impact the mental state of its constituents. If participants are willing to continuously utilize public transport, they must be experiencing positive feedback in some form that improves their overall mental health simply from the experience. This phenomenon can be attributed to the stigma associated with people reliant on public transport. Transportation quality is often not sufficient to warrant use by middle and upper-class demographics. Of course, demographics not influenced by this finding include commuters who prefer to travel by car or simply alone. If someone had just purchased a brand-new Tesla, for example, they will not likely stop using it in exchange for the local bus.

However, a significant percentage of the United States' population relies on public transportation to carry out daily tasks. According to the APTA (American Public Transportation Association), "people board public transportation 35 million times each weekday" ("Facts"). If we assume that each boarding is a unique person, this accounts for about 11 percent of the United States population. APTA also states that "since 1995, public transit ridership is up 34 percent, outpacing population growth, which is up 21 percent, and vehicle miles traveled, which is up 33 percent" ("Facts"). This growth in usage of

public transportation stems from two possibilities: The United States' population is increasing so rapidly that people are forced to find alternative modes of travel, or there is motivation for commuters to use public transportation explicitly. In either case, society would benefit if the mental health impacts of quality transportation were maximized, resulting in a more productive workforce. For every $1 invested in public transportation, $4 are generated in economic returns ("Facts"). Private businesses and the workforce are responsive to such investments by returning money spent in the form of economic profit:

> Infrastructure is understood to be a critical factor in the health and wealth of a country, enabling private businesses and individuals to produce goods and services more efficiently. With respect to overall economic output, increased infrastructure spending by the government is generally expected to result in higher economic output in the short term by stimulating demand and in the long term by increasing overall productivity. (Stupak)

Investing in transportation development has implications that go beyond a superficial level by means of mental health improvement. If the workforce, namely private businesses and the people they employ, are more receptive to travelling via public transport, then their mental states and general productivity at work would improve. Investments like this one are one potential solution to the worsening state of our infrastructure.

The relationship between transportation and mental health is a multi-faceted issue and does not end at simply public perception of local modes of travelling. Environmental factors also have a critical impact on commuter comfort, notably the outside landscape in which transportation takes place. The state of mind of commuters travelling along the coast of California, for example, will be drastically different than if they were travelling across the desert of Nevada. In a study conducted by McCay et al., participants were asked to identify "as many transport-related factors as possible that they considered might influence people's mental health" (McCay et al.). Many of the recorded responses included the encouragement of "green pedestrianization," which promotes nature development around hubs of public transportation utilities. Even though the infrastructure and landscape of large areas cannot be drastically altered to benefit commuters, the transportation environment surrounding bus stops or train stations, for example, can be improved. Travelling, especially over long distances, can be stressful and taxing on commuters. A simple way to combat this negative mental state is to better incorporate "green spaces," which are known to improve mental health.

In addition to tangible environmental stressors, neighborhood poverty is known to negatively impact the mental health of inhabitants. Leventhal and Brooks-Gunn (2003) reveal that

> during the past few decades…policymakers' concerns have focused on large urban centers where high concentrations of poor families reside; [and] many of

> these families dwell in public housing. In addition to poverty, these neighborhoods have been marked by high unemployment rates, large numbers of families receiving welfare, and pervasive crime and violence. (Leventhal and Brooks-Gunn 1576)

Even though place of residence is ultimately a choice made by citizens, some people are unable to escape their poor living situations for a variety of reasons. Considering this apparent residential immobility, mental health concerns for residents arise, including those prompted by transportation. The stress of living in a high poverty area is compounded when there is little access to public transportation, especially when families cannot afford to own a car and must rely on public transit to get to work. This is consistent with the finding that "[people] who moved to low-poverty neighborhoods reported significantly less distress than [people] who remained in high-poverty neighborhoods" (Leventhal and Brooks-Gunn 1576). Encouraging transit availability in high-poverty areas would not only help inhabitants become more mobile but also improve their mental health states by providing a sense of freedom. Consistent with the results from Feng et al., commuters who have a positive perception of public transit quality reap mental health benefits. Increasing mobility and facilitating freedom would both contribute to a better perception of transport infrastructure. Again, transportation is a commodity that most take for granted; we do not often consider what life would be like if we did not have the ability to travel independently.

Even when transportation is readily available to communities, many stressors associated with frequent travelling still exist that can negatively impact mental health. Time spent traveling is an obvious example, as most people have likely experienced a trip that spanned more than a few hours. The more time a person spends awake or performing the same task for an extended period, like commuting, the more fatigued and mentally distressed they become. Dr. Ranjana Mehta notes this phenomenon in a 2015 *ScienceDaily* article, stating that "there were lower blood oxygen levels in the [prefrontal cortex of the brain] following combined physical and mental fatigue compared to that of just physical fatigue conditions." Therefore, sustained exposure to high-stress environments, such as long-distance commuting, may have lasting complications on overall physical condition, most notably brain health, which could result in mental health ramifications throughout the day. Work quality and productivity are impacted detrimentally when the brain is in a worsened mental state. These weakened mental states can be especially dangerous for high-risk professions, such as surgeons or construction workers, in which fatal, irreversible mistakes can be made due to a distressed mind. Neuroscientist David Dinges states in a 2010 *New Scientist* article that "vigilance is one of the areas most sensitive to fatigue" (Wilson). Compromising vigilance, one of the most important biological responses, due to commute time is a dangerous practice that can be averted by employing infrastructure improvement strategies. Even though time spent commuting may have only a small impact on mental health when compared to other influences, it is still

significant and can be deterred by innovating transportation infrastructure. For example, if high speed rail lines were implemented in densely populated areas, time spent commuting to and from work could be fractionized and its effect on mental health mitigated. Also, travel time will only become worse in the future because traffic increases as the population increases.

Perhaps the most obvious yet still overlooked aspect of transportation that contributes to mental health is social interaction with other people. Actively participating in social environments can reduce stress levels and improve overall well-being. A study conducted by Ono et al. found that "the amount of social interaction is correlated to individual mental health…[and] that people who interact with others relatively tended to have less stress" (Ono et al. 249). Certain modes of transportation will cater to more social interaction between the passengers than others will. For example, driving in a car alone will not have the same effect on mental health as riding in a bus with strangers. Nevertheless, behavior and the quality of interactions must be considered for this to be an effective accessory to the relationship between transportation and mental health. In general, increased social activity during a commute can lower mental stress levels significantly. It can then be deduced that modes of transport with a large volume of passengers should be the most beneficial way to travel from a mental health standpoint. This, however, is inconsistent with a recent study which found that "bus and train riders experience the most negative emotions" (Morris and Guerra). The most likely cause of this contradiction is, again, commuter behavior and interaction quality with

other passengers. People possess an intrinsic happiness (or sadness) and may not be significantly affected by simple social interactions with strangers on their way to work. However, the mental state associated with a commuter's destination may override the mental health benefits reaped from social interactions during travel. For example, a person on their way to a job they loathe will be less inclined to interact with other passengers during transit. Even though transit users have the most negative emotions relative to other modes of transportation, Morris and Guerra, professors at Clemson and the University of Pennsylvania, respectively, noted that "this can be attributed to the fact that transit is disproportionately used for the unloved work trip" (Morris and Guerra). Therefore, social interaction during transport will have less of an impact on people who are already occupied with a negative mental state.

Perception of public transport quality, environmental influences, time spent commuting, and social interaction are a few examples of mental health modifiers that pose a significant threat to the well-being of our society. Left untreated, bad travelling experiences can cause serious damage to both the mental health of frequent commuters and the lives of the people around them. One way to incorporate all these factors into a solution is to simply increase the budget for transportation infrastructure. By improving the quality and efficiency of existing transportation systems, the perception of public transport modes would improve. This would then encourage more commuters to utilize public transport and allow them to experience improved mental states. Investing in higher

quality furnishings within vehicles would make passengers feel more comfortable and could even encourage social interaction. Cleaning up environmental spaces around transport stations would also improve PPTI. Adopting emerging technologies, such as high-speed railways, would reduce travel time. These methods, when combined, are an effective way to minimize the negative mental effects of transportation. An example of these designs being integrated successfully can be seen in the economic hubs along China's coast which continue to invest in facilities that support trade, resulting in significant GDP growth as high as 12% increases relative to 2010 (Chen et al.). By mirroring the efforts put forth by China in infrastructure, the United States would not only yield economic growth but also a healthier society in general.

Henry Ford believed that "our modern industrialism, changed to motives of public service, will provide means to remove every injustice that gives soil for prejudice." While great strides in social equality have been made to confirm Ford's prophetic words, United States infrastructure, namely the transportation system, seems to be stuck in the past. Advancement always comes with a price, however, and these implementations would not be cheap for United States taxpayers. The benefits of adopting such solutions must then outweigh the supplemental economic cost. Based on the presented research, transportation poses an issue to public health that cannot be ignored. In an evolving and increasingly competitive society it is important to eliminate stressors whenever possible to foster a healthy community. ❑

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U Is for Utah and Uranium

Kogan Powell

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You and I meet at the bus stop, and I hand you a block of metal the size of a sugar cube. I then casually comment that the cube is 100% raw uranium; what would your response be? Would you quickly fling it away? Would you be fascinated? Would you think I was a Soviet spy? Here's an interesting fact, if you didn't throw it out, you would be receiving more radiation from the 15 or so people around us, waiting for the bus to arrive, than from that cube in your hand ("Are Our Bodies").

"Radiation" and "nuclear" are big buzz words in our minds. We automatically think of bombs, three-eyed frogs, and maybe even *The Simpsons*. However, despite those unfortunate eyesores on the reputation of atomic energy, the good that nuclear fission has done society far overwhelms the bad and needs to be brought to light.

Furthermore, nuclear energy has the potential to continue to meet community needs in the world abroad and here at home in our state of Utah.

The population of Utah is projected to grow by about 1 million people in the next 20 years (Lee). Given that there are only about 3.2 million of us in Utah right now, this is significant (Lee). How will we sustain these newcomers? We could continue building coal plants, natural gas plants or even more wind farms, but I believe that nuclear energy, more than any other source, is our best option to provide safe, clean, and reliable energy for the great state of Utah.

Up until now, discussions about nuclear power in Utah have been scarce, to say the least, but in 2011, a company called NuScale received approval to construct a brand-new type of nuclear reactor in Idaho that is a breakthrough in nuclear technology. Many cities in Cache Valley, Logan included, have contracted for a portion of the power generated by this plant once it is running (which could be as early as 2026). Maybe you're wondering if this is really such a good idea. Or heck, maybe you're wondering if one of these things is even safe to have around. Well, as we'll soon see, there's no reason to fear these marvels of the modern age.

To clear away some of the mists of mystery surrounding "nuclear energy," let's briefly explore the process. Uranium is a metal, like any other metal on earth, and is made of atoms. In the center of an atom, called the nucleus, is where all the protons and neutrons live. Most atoms, say oxygen, carbon and iron, have a pretty stable

nucleus with roughly as many protons as neutrons and everyone is happy. For some elements though, like uranium (or even some in our bodies as I mentioned in the beginning), a percentage of their atoms tend to have unbalanced and unstable nuclei. This unbalance results in little pieces literally flying off the nucleus and the entire thing even splitting in two. This process is what we call nuclear fission. These extra cast away bits of matter or energy are what we call "radiation," and while there're several types, for now, just remember that one of these pieces is a neutron. In the early 1930s, we realized that if we stuck enough of these unstable atoms in the same place, the neutrons released from natural atomic splitting or "fission" would slam into neighboring atoms, triggering fission, which then would trigger other fissions, and on and on, resulting is a fission chain reaction.

The most important part of this process is that each atom fission releases not only neutrons, but enormous amounts of heat. Let's go back to your little cube of uranium (which is hopefully still in your hand) for some perspective. If we were to make that cube (Cole et al.) out of reactor-grade uranium (which has a slightly higher concentration of the unstable atoms, AKA "enriched uranium"), it could produce about as much heat as one ton of coal ("Nuclear Fuel"). In a nuclear plant, many long rods of enriched uranium are bundled together under water. The heat from the fission chain reaction boils the water into steam, and that steam drives a turbine which generates electricity like any other power plant. These plants can go for an incredibly long time without refueling (as much as two to three years), all the while providing enough energy

to power several Cache Valley's worth of people. Surprisingly, this technology has never made it into Utah, perhaps because our cheap and abundant fossil fuel reserves have rendered nuclear uncompetitive, and perhaps because public perception of nuclear power is stuck on the infamous disasters of Chernobyl and Fukushima. Whatever the reason(s), we have neglected to make nuclear power a part of the state of Utah. Until now.

The good news is, this is about to change in only a few short years. NuScale, a leading company in modern nuclear technology innovation, has developed what are called Small Modular Reactors or SMRs. These incredible feats of engineering essentially condense an entire power plant down to a cylinder about 15 feet wide and 80 feet tall. These contain nearly all the components of traditional nuclear reactors but are small enough to be made in a factory and can, in a simplified sense, be plugged into a facility like batteries in a remote control. NuScale is constructing one of these SMR facilities in Idaho Falls, ID and many cities in Utah, including Logan City have contracted to receive some of the power it will produce. This is a remarkable development, but there are still some, such as the Healthy Environment Alliance of Utah (HEAL), who remain skeptical about whether the benefits of nuclear power really outweigh the costs, touting renewables as the future of Utah ("Small Modular").

Before we begin any sort of cost-benefit discussion, however, we must define one thing first. Priorities. What are our priorities? I think we can agree that our people come first; we want our people to have peace of mind, and

to be safe and healthy. After our people are taken care of, we turn to what surrounds us. We want to responsibly use the many resources Utah has been blessed with. We want our policies and infrastructure to be sustainable, and even provide a surplus for those additional 1 million people we'll be accommodating in the next few decades. And of course, we want to ensure that comfortable living is affordable. Nuclear power, and particularly NuScale's SMR project, help us ensure that these priorities are met, and here is why.

Let's first talk about the dollar signs. While I concede that given its history, nuclear is at a cost disadvantage; many experts in the field will tell you that a large portion of these costs are due to poor project management and lack of public support and funding. Additionally, since most of the cost of nuclear comes from construction loans (Muller), the current discount rate (essentially the loan interest rate) plays a large part ("Economics of Nuclear"). Once the plant is paid off, however, the electricity is cheap. Richard A. Muller in his book *Energy for Future Presidents* (which I highly recommend) states that the incredibly low costs of fuel and plant operation allows most facilities to turn around 80% of their revenues into paying off loans. In fact, once you take into account that a nuclear power plant can last for 60 years, while a typical wind and solar farm needs to replace its turbines and solar cells about every 15 years, the net cost can become competitive. To add to all this, current technological innovations are lowering the price significantly. The SMR design from NuScale has been able to cut construction costs by as much as 30% (Botha), and since each module operates independent of the others, you

no longer need to shut the entire plant down for maintenance or refueling (a process that otherwise sets plant revenue back significantly).

While these general improvements are exciting, ultimately this boils down to how much you and I would be paying every month in your power bill, right? Well, while NuScale is currently being funded by the Department of Energy (DOE) and others to initially get these projects going, they are able to offer electricity to the grid for an astounding 5.5 cents per kWh (UAMPS). For perspective, the average kWh for most homeowners in Utah (coming mainly from fossil fuels) is between 8 and 14 cents. This is remarkably competitive in today's market.

But what costs are we saving by using nuclear power, how does that affect our people? Recall that "peace of mind for the people of Utah" was one of our listed priorities. Most nuclear power plants can, in a matter of minutes, finetune the output of the reactor with control rods that slide in between the uranium rods. These control rods block neutrons, and so the further down they slide in, the fewer neutrons can get to other uranium atoms, and the slower the chain reaction goes. On the other hand, with renewables, while extracting energy from ongoing and ever-usable sources is resourceful, they too are under the dictates of mother nature. When the sun does not shine or the wind does not blow, energy must be supplied in another way to fill the gap (usually by means of a backup natural gas or oil generator). Either each renewable energy plant builds its own small army of fossil fuel generators, or major institutions, such as hospitals, who can't afford extended

power outages, would have to buy their own. Either way, we risk long periods without power or continue burning fossil fuels to support out carbon free renewables. Nuclear power solves all of these problems without any additional risk.

Speaking of risk, one fear people have surrounding nuclear is the chance that it could "meltdown and blow up." There's a lot of physics involved, but suffice it to say that with our current reactor designs, an actual nuclear meltdown is incredibly unlikely. Literally, everything would have to go wrong. And even if everything did in fact go wrong, it is physically impossible for a reactor to explode like an atomic bomb. Let me say that again, the laws of physics make it impossible for a reactor to explode like an atomic bomb. In fact, SMR reactors are designed to shut down and cool themselves off naturally, even if the power and control systems went down.

However, admittedly in the cases of Chernobyl and Fukushima, everything actually did go wrong, but let's look at some numbers. Per unit of energy produced, nuclear totally takes the cake for safety, with only 0.04 deaths per TWh (trillion watts). What does that mean? Well, taking fatalities per TWh statistics for other energy sources, if we lined up a coal plant, a hydroelectric plant, a wind farm and our trusty SMR (or other nuclear plant) side by side and ran them for 100 years, we could attribute over 4,000 deaths to coal power, 35 to hydroelectric, and more than three to wind. Meanwhile, our friendly neighborhood SMR plant would have caused about 0.6 fatalities in that whole time (Rose). In addition to all this, it might interest you to

know that 7 million people die globally each year due to air pollution (Botha). Maybe you've seen the inversions here in Cache Valley on a particularly cold fall afternoon, and perhaps you have friends or relatives who find it hard to go out on "red days" because of the breathing hazards. But every day we run our SMR power plant, we would be avoiding literally thousands of tons of CO_2 emissions along with other nasty byproducts of fossil fuels.

With environmental preservation as a priority, the main reason anyone is even considering non-fossil fuel energy sources is because of the growing concern of carbon dioxide emissions. One might think that wind and solar as carbon free as you can get, but once you take into consideration manufacturing, construction, and maintenance costs, nuclear energy is actually only behind "land-based" wind farms in terms of net carbon output. In addition to this, both wind and solar farms require the clearing of hundreds of acres of land prior to installation. On average, for every ton of coal burned in a power plant (a coal plant equal to our SMR plant would burn about 5,000 tons per day) (Hanania et al.), three tons of CO_2 are emitted into the atmosphere. In comparison, a nuclear reactor core itself releases zero carbon dioxide during the process of generating electricity, the only CO_2 attributed to a nuclear power plant is from the vehicles and equipment used in construction and occasional maintenance. In fact, there is hardly any waste at all except for heat and spent fuel.

So, what about the horror stories of green nuclear sludge climbing out of barrels to take your children?

Should we worry about exposure? Well, yes and no. Nuclear waste can be toxic and dangerous, but only under two conditions, when you are near it (and I'm talking using it as home décor), or when it is fresh. The waste is the remains of nuclear fuel after it has expended most of its useful energy and while its radioactivity decreases exponentially with time, the really nasty stuff termed high level waste (HLW) can still be deadly after thousands of years ("Radioactive Waste").

Currently, there are extravagant measures taken to ensure that HLW is kept contained. Ultimately, HLW is encased in "dry storage casks" which are absolute marvels of engineering. You can actually find videos of "durability tests" on YouTube involving anything from dropping them from 30 feet in the air, to literally ramming them with a train (both of which they passed, by the way). These casks are then buried hundreds of feet underground to prevent any leakage into ground water or other public resources. Many argue that this isn't enough, but many analyses have been done showing that these precautions reduce public exposure risk down to benign levels (Kautsky et al.).

Fears of radiation and radioactive waste have yielded standards of caution that are exaggerated, unnecessary, and can even do more harm than good. Of the 100,000 people evacuated from Fukushima following the reactor failure, more people died from exposure, stress, and accident during evacuation than were killed by the reactor failure and resultant radiation contamination (Muller). Obviously, nuclear waste can be dangerous, which is why we have protocols for disposing of it, but I think it is less

dangerous than you might believe. Additionally, as mentioned before, the amount of waste produced by a reactor is actually extremely small, so its volume is certainly not an issue, at least not when compared to entire solar and wind farms (all containing environmentally toxic chemicals) being scrapped every few decades and replaced. Our society desperately needs to re-evaluate our perspective on nuclear energy and nuclear waste and begin to see them in context.

While nuclear plants in general may be more expensive monetarily than other sources, the problems they solve far outweigh those costs. They are reliable and can be scaled to fit energy needs easily. The new SMR design has reduced construction costs and have taken safety to a whole new level. Nuclear plants contribute little waste (whether as radioactive leftovers or greenhouse gasses) and the waste that is produced can more than adequately be dealt with. Nuclear energy is the best option we have to ensure a safe, secure, and reliable future for Utah as we continue to grow and welcome newcomers to our amazing state. While Logan is currently on board to participate in the incredible developments with NuScale, many discussions are still being had. You and I may very well be able to participate in these discussions whether publicly or even with a friend. Go out, learn more. Let's help Utah reap the benefits that this incredible resource has to offer. ❑

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Nuclear Energy and Controversy: The Debate Over Its Future in Legislation

Hamilton Hardy

This essay was composed in November 2020 and uses MLA documentation.

In 2019, the Intergovernmental Panel on Climate Change (IPCC) released a special report where they argued that if the governments of the world did not significantly lower carbon emissions that the world was at high risk of severe effects to the climate. While not proposing policies that could correct the climate, they instead set a threshold of temperature increase. If governments can lower emissions enough to keep global temperature increase below 2° Celsius, they reasoned that a majority of climate change harms could be avoided. While the agency left it up to individual countries to lower their emissions, other countries and the IPCC have looked

to the United States as key to lowering emissions. Responsible for 14% of global emissions, the U.S. has the financial stability and the industrial power of a developed nation to create a large enough dent in overall emissions (Plumer). A particularly interesting resolution that was recently stalled in government has called for the sweeping change that is needed to meet IPCC's goal. The "Green New Deal," offered by Representative Alexandria Ocasio-Cortez, does not make a financial plan. Rather, it demonstrates a commitment toward avoiding climate change harms and giving particular attention to how climate change legislation might affect minorities and low-income families. Since both the introduction of the IPCC report and the Green New Deal there have been countless legislative proposals for the Green New Deal. While all of these proposals differ, they all seem to agree to intentionally exclude the use of nuclear energy. This controversial topic has stirred some resentment within the academic community. Some scientists and organizations, including members of the International Energy Agency (IEA) have even concluded that nuclear energy is required to avoid climate change, arguing that its global production must double by 2050 or the effects of climate change would soon materialize, such as 40 million deaths, a 60% worldwide crop failure, and a 50% global GDP crash (Magill). Arguing that new technologies and upscaling current reactors could be the way to avoid these disasters, pro-nuclear advocates have aggressively lobbied for nuclear to be included in green policy proposals. Despite the case for implementation, the Green New Deal and climate change legislation must continue to exclude nuclear. From its long

construction time, high cost, and polluting fuel supply, nuclear shows itself to be a financially risky and climate-damaging bet on the race to a clean future.

The first harm of nuclear energy stems from its construction and retirement. Stefan Rahmstorf, a German climatologist, has gamed out scenarios where world governments effectively lower carbon emissions enough to reach the IPPC's goal and avoid climate change harms. He found that in any realistically financial scenario, 2020 has to be the peak year for emissions. While Rahmstorf's model frames the case globally, it does have direct implications on the U.S. and the use of nuclear power. The average construction time for nuclear reactors is 7.5 years, and while that may not seem that long, it limits the amount of time clean energy is actually in use (Mearns). In an extreme example, the U.S. took 43 years to build one reactor (Groskopf). The long construction time to build nuclear reactors creates two problems. First, waiting around 7.5 years to put energy on the grid could potentially mean facing climate change harms before effective action could be taken. Second, energy creation and consumption do not drop to wait for the creation of new sources, and pre-existing coal, oil, and natural gas plants will continue to emit carbon emissions during those 7 years. In fact, even retiring nuclear reactors run into the same problem. When nuclear reactors close, the default energy source that replaces the loss in capacity is natural gas. Because renewables are not fast enough to scale up production, the life and death of a nuclear reactor are almost always enveloped in cheap carbon-emitting energy sources. Recently closed nuclear reactors, like Crystal River,

SONGS, Kewaunee, Vermont Yankee, Fort Calhoun, and Oyster Creek, were nearly all replaced by natural gas production, which is creating over 25 million tons of CO_2 every year (Conca). Fulfilling Rahmstorf's model is a matter of speedy production; the argument against nuclear becomes less about the quantity or longevity of a source and more about the rate at which that source can be produced.

One argument that is offered by pro-nuclear advocates in response to long construction time for nuclear reactors is increasing the lives of pre-existing reactors by using power uprates that require minimal construction time and give reactors anywhere from 20 to 40 years of extra production. In fact, the Nuclear Energy Institute found that if the 73 nuclear plants in the U.S. that haven't had substantial uprates did, 8.5 to 10 GWE would be added to the grid, which is the equivalent to building 8 to 10 reactors (Davis). Historically, uprates have proven to be successful in keeping the equivalent energy capacity in the U.S. despite a drop in the last few years in nuclear reactors. While this sounds like a solution, uprates are still not significant enough to save nuclear energy from the scrutiny of its slow construction time considering that 8.5 to 10 GWE would add less than 2% of the national share of energy production ("Levelized Cost and Levelized Avoided Cost"). Doubling nuclear production to avoid climate change harms is going to require building new reactors, which run into the consequences of those seven years of construction.

The second problem nuclear runs into concerning its creation is cost and investment. Nuclear power costs significantly more money than other energy sources. In 2019, Lazard did an energy report on the levelized cost of different kinds of power generation, or in other words, the average revenue per unit of electricity generated that is required to recover costs of creation and production ("Levelized Cost and Levelized Avoided"). It finds the price of nuclear at $118 per megawatt, which is far more expensive than other energy sources, like solar at $36, wind at $28, or gas at $44 ("Levelized Cost of Energy and Levelized Cost of Storage 2019"). While the Green New Deal and other significant climate change proposals have indicated that the cost of a green future doesn't matter as much as it does the desire to obtain one, paying more money for less energy is not ideal. In fact, the cost of nuclear has only increased. The 2019 World Nuclear Industry Status Report indicates that over the last decade, the levelized costs for utility-scale solar have dropped by 88%, for wind by 69%, and while for nuclear, it has increased by 23% (Froggatt 15). The high costs of production not only demonstrate the need for climate methods that are cheaper, faster, and more efficient, but it shows a compounding problem with nuclear reactors and investors. With higher costs, an investor's opportunity cost decreases, meaning they have less to lose if they don't invest in the construction of a nuclear plant (Hayes). *Energy Post* writes that the average return on investment on a new nuclear plant is only around 1.3%. An investor has no incentive to spend money with such a diminished return unless they increase their profits, which means that

they increase prices for nuclear energy, which in turn factors into the levelized costs of production. This cycle of investors and costs has culminated in an overall failure of current reactors. The Union of Concerned Scientists in 2018 points out that one-third of existing nuclear plants in the U.S. are unprofitable even while the government offers $85 billion per year to the industry ("Nuclear Power & Global Warming," "Nuclear Power Subsidies"). The fact that subsidies are given is not important. Rather, it is important to note that nuclear reactors are still unprofitable even with subsidies.

Nuclear energy's high cost also has a direct consequence on low-income individuals and families. EIA's residential energy consumption survey found in 2015 that "about one in five households reported reducing or forgoing basic necessities like food and medicine to pay an energy bill" (United States, Congress, Senate, Committee on Energy and Natural Resources). This means that fluctuating costs of power have significantly more weight on low-income families' financial stability. A study was done by the Senate Committee on Energy and Natural Resources that calculated that for every 10% increase in home energy costs, 840,000 Americans would be pushed below the poverty line (United States, Congress, Senate, Committee on Energy and Natural Resources 5). Because of the high levelized costs and painful cycle of inflation of price, it has the potential to force low-income groups into poverty and into unwanted sacrifices to their health and nutrition. If climate proposals did not exclude nuclear energy for being too slow to create, they excluded it based on its failure to produce an energy source that is cheap

enough to support low-income individuals and families and commercially viable enough to attract enough investors.

Advocates of nuclear energy have a harder time justifying its use after factoring in the high cost of production. However, they do offer one argument claiming that new nuclear technology has the chance to revolutionize the cost and boost the incentive to invest. Propping up hypothetical technologies like non-light water or thorium nuclear reactors as poster children, advocates argue that if the size of reactors can be decreased, they can create a sort of grassroots investment system that would make nuclear power significantly cheaper and more energy-efficient. These technologies could save nuclear from exclusion from green legislation. However, instead they highlight another issue with government subsidies. The government has provided $2 billion since the 1990s for some of these technologies. However, as IOP Science writes, most of these technologies have made no significant progress to market deployment (Abdullah et al.). Even those that have made progress, they are so far from deployment that conservative estimates project another 25 to 30 years before these nuclear reactors could employ these technologies (Barnard). Considering that the world cannot wait for clean energy for another 30 years, it is imperative to focus on other energy sources instead of investing in hypothetical imaginings of nuclear grandeur.

While the slow construction time and low return on investment should be reason enough to exclude nuclear energy from green proposals, there's a lot to be said about

nuclear fuel and its direct consequences on the climate and consumers. Nuclear fuel can take many different forms. The most common source is uranium, a highly radioactive element that can produce tons of energy. Despite uranium fuel and nuclear reactors being labelled as a clean and sustainable source of energy, they still produce a significant amount of CO2 and other carbon pollutants through uranium's intensive mining process. From uranium's initial identification to its mining and extraction from ore, processing requires significant energy to power tools and supplies, and as Keith Barnham writes, a majority of that energy comes from fossil fuels (Barnham). With this factored in, the numbers speak for themselves. Benjamin Sovacool writes that over an analysis of more than 103 lifetime studies of nuclear power plants, the average grams of CO2 per kWh comes out to be 66 grams or the amount of CO2 produced for a kilowatt of energy (2941). This CO2 production is significantly higher than all renewable sources, with hydropower creating 10, biogas creating 11, wind creating 34, and solar creating just under 50 grams of CO2/kWh. If high emissions are not a reason to exclude nuclear, green legislation excludes it because it is only projected to get worse. While renewable energy sources are expected to decline their already low CO2 emissions, nuclear is expected to increase as the quality of uranium ore is expected to decline. Research from Storm van Leeuwen has pointed out that 37% of the identified uranium reserves have an ore grade below 0.05% and is slowly increasing as higher ore grade uranium is used up (Barnham). While initially insignificant, van Leeuwan further explains that a nuclear plant using uranium ore

grade below 0.01% has the potential to have a carbon footprint larger than a natural gas electricity generator and may not produce any net electricity over its lifecycle.

Factoring in van Leeuwen's extensive research into quantifiable impacts on citizens, the results become even more striking. The World Health Organization shows that about 7.1 million people die from air pollution each year, with more than 90% of these deaths from energy-related combustion ("Air Pollution"). As uranium takes more and more fossil fuel energy to procure, it is furthering air pollution and effectively responsible for thousands of people's deaths. These deaths are even more prominent in minority and low-income communities. The American Lung Association explains that housing discrimination and redlining has forced minorities or low-income communities into particular areas that have consistently increased their risk of premature death from fine particle pollution ("Disparities in the Impact of Air Pollution"). These disproportionate effects potentially caused by nuclear energy use represents the biggest contrast from the Green New Deal and green legislation. Green legislation is all about targeting marginalized groups and giving them a voice in clean energy, while nuclear is taking advantage of an already discriminatory system to disadvantage the marginalized. This represents the most significant reason why nuclear simply does not fit the Green New Deal and the policies it advocates for.

Storm van Leeuwen's findings are damning for pro-nuclear advocates. Counterarguments would not justify an energy source that may be just as bad as the status quo.

Despite new technologies, despite uprates, there is nothing that can offset the pollution that nuclear energy adds and will continue to add as uranium quality decreases. There is nothing that can change the regressive system that nuclear uses. There is nothing to be done with nuclear and for that, it must be excluded from green legislation.

No matter how much climate change legislation is debated or considered for its potential effects, it won't stop the looming clock on climate change. Taking effective action as soon as possible is a priority for correcting decades of neglect. Nuclear energy, despites its future potential in new technology, cannot increase fast enough to produce energy on the levels that the climate needs; it cannot produce cheap and efficient energy on the levels the people need, and most of all, it cannot produce clean energy on the levels the world will need. The Green New Deal is ultimately just a stepping stone into a new era of clean technology because the future of energy is up to every single person on this imperfect planet to act and make change happen. ❑

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CRISPR-Cas9: A Risk Worth Taking

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Imagine a world where it is possible for wealthy parents to pick and choose traits that they want their children to have—height, athleticism, muscularity, intelligence, eye or skin color, to name a few. This concept is commonly referred to as "designer babies," and with the incredible speed that gene editing is progressing at, it may not be far from reality. But if designer babies weren't outlandish enough, the future could also hold wooly mammoths, spicy tomatoes, custom order koi fish, and even the eradication of malaria-carrying mosquitoes (Weintraub, 2015; Fernández, 2020)!

These seemingly fantastical ideas could be possible using the genetic tool CRISPR-Cas9. CRISPR—pronounced "crisper"—is faster, cheaper, and more accessible than most gene-editing tools. If used appropriately, it could lead to many advances in disease

treatments, increased equity in access to care, and a healthier population. However, there are concerns about the use of this new tool, particularly in the scientific community. Robert Truog, Director of the Center for Bioethics at Harvard Medical School, shared that his apprehension is centered less on the progression of gene editing technology and more on its ethical implications. For Truog and his peers, it's "about the oversight of science. The concern is that with technologies that are relatively easy to use, like CRISPR, how does the scientific community regulate itself?" (Bergman, 2019). CRISPR-Cas9 is a promising gene-editing tool with many possibilities, especially for disease treatment, but it needs to be approached cautiously due to the ethical and societal implications of its use.

CRISPR-Cas9 is a complex biological technology. In bacteria, it is used as an acquired immune response. The microbes snip and capture segments of the intruder's DNA and store them as CRISPRs (Clustered Regularly Interspaced Short Palindromic Repeats), from which CRISPR-Cas9 gains its name. If the same intruder tries to attack again, the microbe will use these DNA segments to help an enzyme, commonly Cas9, to find and slice up the invader's DNA. This natural defense system can be exploited by researchers. In a lab, CRISPR-Cas9 is composed of a segment of guide RNA, a form of genetic code similar to DNA, and an enzyme called Cas9. In laboratory use, scientists design the RNA to mirror the target area of DNA. The enzyme functions as "scissors" to cut the target DNA. The guide RNA combines with the enzyme Cas9 to target and cut the intruder's DNA. The

cell's repair system will heal the damage. Scientists can insert a new piece of DNA that the cell will combine into its genome during the sealing process (NCI Staff, 2020; NCI Staff, 2017; Ledford, 2020b).

There are many benefits to the use of CRISPR over other gene editing tools. It is faster, more precise, and more effective than other options. It is easier to use and much cheaper than alternatives. Additionally, CRISPR is completely customizable and can be used to edit almost any sequence of DNA in a genome (NCI Staff, 2020). CRISPR-Cas9 has an ever-growing, diverse set of applications. Some of these include treating medical disorders, enhancing vegetable resistance to disease, and saving endangered or extinct species (Ledford, 2020c; Fernández, 2020; Weintraub, 2015).

One of the most valuable functions of CRISPR is to treat cancer. One way that CRISPR-Cas9 is being used in this fight is to modify one kind of the body's immune cells—T cells—to make them more effective in treating cancer. This is called CAR T-cell therapy. In this treatment, a patient's T cells are collected and modified to attack tumors more efficiently then returned to the patient (Eyquem, 2017; Reardon, 2016; NCI Staff, 2017). A second method was developed in 2016 by a group of Chinese researchers in which cells were removed from the patient's blood, modified using CRISPR to disable a gene that allows cancer to be present, then reintroduced into the patient (Ledford, 2020c). The third method for cancer treatment is editing tumor cells. Various techniques have been created to change the behavior of the tumor cells. Some include

inducing apoptosis, or "cell suicide", reducing cell resistance to drugs, and healing or replacing cancer-causing mutant genes (Azangou-Khyavy et al., 2020).

The many uses of CRISPR also create possibilities for error and magnify the inherent potential danger when modifying genetic material. Three potential dangers are off target edits, on target incorrect edits, and the impact of pleiotropy, in which one gene can affect many traits. Off-target edits occur when CRISPR cuts DNA outside of the target gene. This could be potentially dangerous and harmful. In 2002, a gene therapy study found that unintentional edits could even possibly cause cancer (NCI Staff, 2017). Comparably as dangerous are on-target incorrect edits. This occurs when CRISPR makes the cut in the correct location, but the cell heals incorrectly. On-target incorrect edits, like off-target edits, have the potential to cause cancer. The third known danger is that an edit in one gene can affect more areas than the intended protein or outcome. One gene can code for more than one protein as well as perform more than one function (Gene, n.d.). For example, scientists intending to edit a gene for HIV could unintentionally change brain function, as seen in a recent trial (Regalado, 2019). Any of the unintended effects of CRISPR editing have the potential to be dangerous. However, it is vital to realize that by modifying the components of CRISPR-Cas9, scientists have improved CRISPR's accuracy and efficacy (NCI Staff, 2020).

Another concern are cells' built-in defense systems. In 2018, researchers found a problematic gene while testing CRISPR in retinal and stem cells. The gene in question is a

cell's p53 gene, which tells the cell to self-destruct in response to DNA damage. The gene is important in keeping cells from turning cancerous, but CRISPR worked better in cells whose p53 gene was nonfunctional. Concerningly, this meant that CRISPR circumvented one of the body's disease fighting mechanisms, causing healthy cells to die while allowing potentially cancerous ones to remain (Rinde, 2019; Goodman, 2020; Haapaniemi et al., 2018).

The benefits of CRISPR outweigh the costs, especially when one considers the previous forms of gene editing available. The world's first taste of gene editing came in the form of gene therapy in the 1990s. Gene therapy was seen as new and exciting. The rise and fall of gene therapy are chronicled through the story of Jesse Gelsinger. Gelsinger was an 18-year-old with a condition called OTC deficiency. OTC deficiency is typically fatal for babies, but was controlled in Gelsinger with a low-protein diet and drugs. He agreed to be a part of gene therapy clinical trials. The treatments were not intended to cure Gelsinger or even benefit him much. Instead, they were intended to test the safety of a treatment for babies with OTC deficiency. He was treated with the functional OTC gene delivered via an adenovirus. He developed a severe allergic reaction to the virus which resulted in his death on September 17, 1999. His was the first death directly related to gene therapy. His death rocked both the scientific community and the nation. Gene therapy was no longer discussed with excitement (Stolberg, 1999). After Gelsinger's death, many investigations were made, both on the science and on the ethical practices of the trials. Numerous problems with the study were found, most notably with the lack of informed

consent. The gene therapy had severe effects in other patients, and three monkeys had died in the preclinical phase; Gelsinger and his parents were not told about either. Jesse's death set the field back decades (Rinde, 2019; Reardon, 2016; Stolberg, 1999).

After this gene therapy debacle, CRISPR was put under the microscope. Research on CRISPR began in the mid-2000s, and CRISPR was first harnessed for gene-editing in 2013. The public was cautiously optimistic about the research. Memories of gene therapy and Jesse Gelsinger were still fresh, but society hoped for great things (Zimmer, 2013). There was concern at the time that the rise and fall of CRISPR would mirror the path gene therapy took. In the words of Jennifer Doudna, the creator of CRISPR-Cas9:

> When a new technology comes along, of any type, people tend to get very, very excited about it and it stimulates lots of thinking and ideas. But the danger is that there is a race to do something that the field isn't really ready for, or that causes either perceived or real danger to the community in some way, or something unethical. That creates a backlash that can really set a field back. Gene therapy is a great example of that. There was a race into the clinic, with lots of excitement, and then when patients died there was a backlash that destroyed the field for more than a decade. We would really love to avoid that here (Sanders, 2015).

The world and scientific community want to see CRISPR maintain its momentum, without moving too quickly. If the world tries to accomplish too much in a short amount of time, CRISPR and the gene editing field will suffer the consequences.

Jennifer Doudna began studying CRISPR in 2005 (Doudna, 2015). Since then, CRISPR has become one of the most utilized gene editing tools available. Many important medical advancements have been made and implemented using CRISPR in the recent past. In 2015, scientists cut HIV out of cells (Doudna, 2015; Kurzgesagt, 2016). The first clinical trials of CRISPR in the U.S. were announced in 2016 (Kurzgesagt, 2016; Reardon, 2016). Also in 2016, Chinese scientists used CRISPR in human patients for the first time. The researchers utilized the gene-editing system to treat lung cancer patients (Kurzgesagt, 2016; Cyranoski, 2016a). Many other uses and applications for CRISPR have been pioneered.

One of the largest and most controversial projects in CRISPR-Cas9's history was the so-called "CRISPR twins." In 2018, He Jiankui, a Chinese researcher, announced that he had created the world's first genetically modified humans. His goal was to give embryos resistance to the HIV virus. He used CRISPR to disrupt a gene that codes for a protein that allows HIV to enter human cells. Context matters, and in this case, it is important to recognize that the twins showed no history or increased risk of contracting HIV. The twins' birth was made public on November 25th, and a startling discovery was made. The twins' brains were modified due to the CRISPR editing. A gene known as

CCR5 was disrupted, which plays an important role in brain function. Evidence has been found that CCR5 acts as a suppressor of memories and synaptic connections. For subjects lacking the gene, recovery after strokes and memory were improved, and mice without the CCR5 gene were smarter than those with the gene (Regalado, 2019). The exact result of the editing in the twins is impossible to predict.

The reaction of the scientific community to He's experiment was mainly negative. Many scientists condemned his work. It is "unconscionable … an experiment on human beings that is not morally or ethically defensible," said Dr. Kiran Musunuru. Dr. Eric Topol added, "This is far too premature. We're dealing with the operating instructions of a human being. It's a big deal" (Marchione, 2018). Not all opinions were negative, however. George Church, a geneticist from Harvard University, spoke out in support of the modifications for the goal of addressing HIV: "I think this is justifiable" (Marchione, 2018). Many argue that the genetic tampering was unnecessary and risky. Because the twins were not infected and were not at high risk for contracting HIV, the children would likely not benefit from the editing and instead were being exposed to the many unknown risks and dangers associated (Marchione, 2018; Cyranoski, 2020; Regalado, 2019). Catherine Racowsky, professor of obstetrics, gynecology and reproductive biology at Brigham and Women's Hospital, shared her thoughts:

> Until the work is done, carefully and with tight oversight, to understand any off-target effects of

> replacing or removing a particular gene, it is inappropriate to apply the technology in the clinical field. My understanding of Dr. He's case is that there wasn't a known condition in these embryos, and by editing the genes involved with HIV infection, he could also have increased the risks of susceptibility to influenza and West Nile viruses. (Bergman, 2019)

The costs and risks of the editing in the CRISPR twin are likely to outweigh the benefits. Scientists cannot yet be sure of all the effects of their editing. The many unknown risks associated need to invite more caution in the scientific community (Marchione, 2018; Cyranoski, 2020; Regalado, 2019).

In the years since the "CRISPR twins", CRISPR-Cas9 has seen a lot of success. In 2019, results from the first human trials began to be published and more trials were announced (Ledford, 2020c). Last year (2020), CRISPR was inserted directly into the body for the first time to treat hereditary blindness. The gene-editing tool was injected directly into the patient's eye, near photoreceptor cells. Previously, CRISPR has only been used in cells that were removed from the patients. Inserting CRISPR-Cas9 directly into the body carries more challenges and safety concerns than treating cells in a laboratory (Ledford, 2020b).

Gene editing via CRISPR has affected society massively throughout its history. They have many ethical and societal implications accompanying their use. Many of the ethical implications are due to the use of gene-editing

on humans, and the dangers that lie therein. Associated with the many unknowns of gene editing are potential long-term side effects. The treatments are essentially permanent. Because CRISPR is so new, scientists do not currently know how human physiology will react in response to the editing (Rinde, 2019).

A second ethical consideration is the divide between editing for serious, lethal diseases and less urgent conditions. For those with devastating diseases, or those with few available treatments, they may feel any chance of relief is worth taking. They are willing to accept the unknown risk of harm or side effects from the CRISPR treatments for the chance to lessen their symptoms or extend their lives. These experimental trials are ethically acceptable, but the risks are not worth taking for treatments of less serious conditions or nonmedical applications (Rinde, 2019). It could also be argued that not treating babies with typically fatal medical conditions is unethical, as it condemns them to a preventable death. This stance depends on societal norms and opinions of what is considered medically necessary. Over time, society and science may be willing to condone more and more edits that we would now consider unnecessary and risky (Kurzgesagt, 2016; Ayanoğlu, 2020; Mulvihill et al., 2017).

Regulation is one method of addressing the ethical concerns associated with gene editing. Previously, there had not been many regulations put in place because it was difficult to perform gene edits. There was simply no need to regulate all possible areas because those areas were not being explored. With the growing possibilities of

modifications, regulations and restrictions should be reevaluated and modified (Sanders, 2015). These restrictions should strike the careful balance between scientific advancement and staying within the bounds of ethics. In 2015, Jennifer Doudna and other scientists called for a moratorium on certain aspects of CRISPR editing. CRISPR pioneer Feng Zhang of Harvard and MIT explains:

> The moratorium is a pause. Society needs to figure out if we all want to do this, [and] if this is good for society. … we need to have guidelines first so that the people who do this work can proceed in a responsible way, with the right oversight and quality controls. (Bergman, 2019)

Many other scientists have echoed similar sentiments. Doudna wisely believes that

> work on CRISPR-Cas9 should continue full speed ahead, but that attempts to alter genes in human eggs, sperm or embryos should be halted until scientists, doctors and the public know fully the implications of a change that will affect not only that one person, but all descendants of that person, in perpetuity. (Sanders, 2015)

The concern that Doudna shares is one of the major societal impacts of genetic editing. Engineering human egg and sperm cells – known as germ cells – or even embryos will lead to changes that are heritable, meaning that the traits given will be passed on throughout the posterity—eventually affecting the whole gene pool (Kurzgesagt, 2016). Proponents of CRISPR would argue that somatic

cells (all body cells except for germ cells) are the most common edits when treating diseases. Edits in somatic cells are not passed through generations.

There are two main possible outcomes of editing along the germline: polarization or stabilization. Polarization would lead to one portion of society having edited genes and the benefits associated, while the other portion would become the "have-nots". There would be a greater divide between classes—those who can afford gene-editing and those who cannot. This would increase discrimination and division. Alternatively, gene-editing could cause societal stabilization. In a case where capitalism created competition, thereby lowering prices and increasing accessibility, more people, rather than fewer, would participate. This would lead to a healthier population where eventually everyone would have some sort of gene editing in their genetic history (Cyranoski, 2016b). Due to the accessibility of CRISPR, stabilization is the more likely outcome.

In addition to the national potential outcomes of gene editing, there are broader, international potential consequences. China and the U.S. have been the leaders in CRISPR editing since its creation. Both countries are working hard to make advancements and treatments quickly and effectively, which could lead to competition between the two superpowers. The competition could potentially escalate, leading to a genetic arms race of sorts with China. Hypothetically, this could unify American people in a way reminiscent of the Space Race of the 20th century. It has the potential to bring together the American

people in ways that have long been forgotten in the current climate of division (Cyranoski, 2016a; Cyranoski, 2016b).

Even more pressing than a possible genetic war is the danger of eugenocide. Because CRISPR is easy to use, cheap, and accessible, the potential for abuse is frighteningly tangible. Scientists could make changes under the guise of editing for another trait (Regalado, 2019). Even worse, should someone with extreme views get the chance, they could eradicate certain traits, like pigmentation, from the genome or introduce a genetic vulnerability causing a subset of the world's population to be at a greater risk of dying of existing diseases. The fear of abuse could lead some to call for a ban on editing, but such an extreme action would likely drive the research underground, where there are even fewer constraints against the dangers associated with CRISPR.

CRISPR-Cas9 is a complex medical tool that will shortly become a household name. Its use carries many benefits as well as potential dangers. The ethical and societal implications CRISPR presents requires it to be utilized with caution and restraint. A line must be drawn, and the clearest place for use in humans is to stop edits on germ cells, and limit editing to medical and life-saving purposes, which need to be clearly defined by common consensus. The world must proceed with prudence and responsibility while embracing scientific progress. ❑

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The Real Cost of Quality

Brian Moose

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In the United States, the rising cost of health care is becoming a greater and greater issue. Many ideas have been considered and implemented in order to fight these rising costs. However, lowering costs often comes at the expense of decreases in quality of care. As medicine becomes more advanced, we hear greater cries for high quality care, especially in family practice or primary-care physicians. In addition to this, the dynamic of medicine is changing as physicians move from self-employment to working for larger health care organizations. This shift creates a unique opportunity that did not exist even 20 years ago—to fundamentally change physician compensation in a way that will reduce costs while increasing quality of care.

Throughout this paper, four compensation methods will be explained and evaluated in detail. These evaluations will start with the most common model, fee-for-service, followed by pay-for-performance, then capitation, and

finally, salaries. The aspects considered will include the current usage of these models and their motivating factors, as well as the virtues and pitfalls of each. Through these evaluations, it will become clear that the United States should move towards salaried work for physicians on the basis of reducing costs and achieving higher quality of care at all levels. The standard usage of fee-for-service has become unsustainable and pay-for-performance and capitation are insufficient for our needs. Moving towards salaried physician models, in addition to using a strict hospital budget, will greatly reduce the problem of health care costs and improve the quality of care for patients in all fields of medicine.

The most commonly used compensation model today is the fee-for-service model. This relatively simple model calls for compensation that is directly proportional to the services rendered by the physician. Every procedure and diagnosis that a doctor performs or treats incurs its own billing value. Then the quantity of services provided is multiplied by the value assigned to those services (by the patient's insurance company) and a portion of that total is paid to the physician. Historically, independently practicing physicians have required this model. But as physicians transition from private practice to employed work, this compensation model is retained mostly out of ease and familiarity. Now it is creating a great drain on the health care system.

The fee-for-service system has its merits. This system directly compensates physicians for the work done and promotes volume of patients. Promoting volume is

important in the primary-care setting where there is a real shortage of physicians (Olson 492). This system is also valuable in that the cost of each service is well-established and accounted for by each insurance company. For privately practicing physicians, fee-for-service provides the most direct and understandable form of income. You are paid for what you do and not one penny more. From the economic standpoint, this makes a great deal of sense, which is why it has been the most enduring model of compensation. But as society advances, the purely economic standpoint is no longer sufficient for our needs and expectations.

Along with the many virtues of this system, there are many drawbacks as well. Fee-for-service does nothing to address or insure quality of care. There is a fundamental assumption that doctors will make decisions based entirely on the needs of patients and not consider their own needs. Joseph Bernstein asserts,

> in fact, given the perverse incentives in physician payments, sometimes "professionalism" has become almost synonymous with acting to protect one's patients at financial cost to oneself….It is an incomplete, and disheartening, view of professionalism that boils down simply to self-sacrifice. (884)

To echo Bernstein's sentiment, research shows that this model does not allow for physician altruism. Fee-for-service encourages unnecessary services and wastes time as physicians try to squeeze as much out of insurance companies as they can (Green). In response, insurance

reduces the value of the services provided, and doctors encourage unnecessary tests with greater exuberance to make up for the reduction. This is a vicious cycle which drives up the costs of health care and decreases quality. Under the fee-for-service system, physicians lose virtually all control over the value of their work. When physicians work for a given health care organization, their compensation is determined by the centers for Medicare and Medicaid as well as the American Medical Association (491 Olsen). This leads to under-compensation and the exploitation of physicians, both perceived and literal, by the health care organization. Now over-treatment abounds and no thought is given to the quality of care that is being provided. Fee-for-service is flawed and too costly for the society of today.

Due to the lack of focus on quality, some have tried to create a system in which compensation is determined by the quality of a physician's work. This system is most commonly known as Pay-for-Performance, or P4P. The main goal of the P4P system is to meld the volume-based standard of fee-for-service and the practice of altruistic medicine to insure quality (Wynia 884). This system utilizes "performance metrics" by which the physician is compared and then compensated, generally with the potential of bonuses, depending on how well the physician performs. This method has many virtues in theory and on paper, and is rather optimistic; however, this system presents more flaws than any other model conceived.

In order to demonstrate the flaws in pay-for-performance, let us first consider a study that compared

the two P4P models between the UK and California as performed by McDonald, et al. This article's satirical tone demonstrates that even "successes" are failures with P4P. In California, P4P completely broke down and was quickly replaced due to its failure in application. Physicians reported a "lack of clarity" in the performance metrics, producing wide-spread dissatisfaction with the system while distracting physicians from their patients. This lack of clarity stems from discrepancies in schools of thought, some of which advocate that value is determined by comparison to national averages, while others advocate value based on access to health care. Yet more argue that increased expense outweighs the cost. In the UK, this system showed wild amounts of success—so much success, in fact, that the UK's healthcare system faced serious financial crisis when more money was needed for performance bonuses than had been allocated (McDonald et al. 766). The confusion was so great in the UK that "the government was also not exactly sure…as to what the system was supposed to achieve" (McDonald et al. 766). This is important because it demonstrates the lack of clarity of P4P, as well as a lack of knowledge within the policymakers. Both fee-for-service and P4P have proven ineffective at keeping costs low for patients while keeping treatment options open. With both of these models, all parties lose.

Fee-for-service and P4P fall into a class of models called retrospective compensation, where the physician is paid for services performed. This paper has provided ample evidence as to why this does not work well. It is time to consider prospective compensation models, where

compensation of the doctor is *not* linked to the services they provide. The goal of prospective payment removes the need for physicians to force as many treatments onto patients as they can stand. These models, such as capitation and salaried work, depend on the intrinsic motivation of the doctors to treat their patients adequately—in other words, prospective compensation assumes that physicians want to help their patients. Prospective payment also frees doctors of concerns about their paycheck at the end of the week. However, these models can lose the push for patient volume that is a fundamental feature of the retrospective models—a push that is needed in many practices to turn a profit.

The first of these models is capitation, or "pay per head." The physician in this model is simply paid a fixed unit price per patient as determined by the patient's insurance. This model provides for relief within the administration, as it is easy to calculate, while maintaining the benefits outlined above. This system is also good because it maintains the need for a healthy patient volume on the side of the physician—one would not want to pay physicians to do nothing. However, this system has its own bevy of flaws to consider.

The first of the drawbacks of this system is a study completed in Canada in the mid 90s. This study showed

> that primary health care provided on a capitation basis, with an incentive to physicians to substitute ambulatory for hospital care, did not reduce rates of hospital utilization among patients vis-à-vis rates

> among patients attending comparable fee-for-service practices. (Hutchison et al. 660)

This study aimed to measure the frequency with which physicians used hospital services—as compared to the fee-for-service system—when they are receiving incentives to not use the hospital. The results were obviously not promising. There are a few flaws with this study, including its age and the aspects that were measured. However, this does dismiss the black mark that now rests on capitation. In addition, empowering physicians to determine the value of their work is still not addressed. The physician would not be at liberty to negotiate the value of the services provided per patient because that decision would remain with insurance companies. Capitation would also promote passive exclusion of high-expense patients, as they would result in a net-loss. Excluding the people who need the most from healthcare would be counter-productive.

The last system of compensation is that of the salaried physician. This system retains all of the desirable qualities of prospective payments, including financial security, while eliminating the drive to push procedure volume. The potentially problematic lack of motivation for volume can be easily addressed by requiring quotas. Note that quota usage is already in place within fee-for-service. In a study that compared the way that physicians reacted to different models, researchers found that salaried work almost completely eliminated unnecessary care. The reduction of unnecessary care alone lowered predicted cost by 60% while maintaining or improving quality of care (Green). The reason why salaried physicians do not decrease quality

of care is attributed to the altruism of physicians. Physicians do what they do primarily because they enjoy helping people and improving the lives of their patients. This intrinsic motivation improves quality more than external motivators like monetary compensation or performance targets. In fact,

> a great deal of experimental evidence from both social psychology and econometrics suggests that when an activity is largely driven by internal motivations—such as professionalism or pride in the quality of work one achieves—adding an external (e.g., financial) motivator can actually backfire, often dramatically. (Wynia 886)

The salaried system for physicians allows for these intrinsic motivators to come to the forefront and assist caring physicians in eliminating overtreatment and unnecessary follow-ups.

The benefits of salaried physician work can be compounded by the use of global budgeting. Global budgeting is described as "an overall spending target or limit that constrains the price and the quality of the services provided" (Dredge 5). In other words, a spending cap for health care organizations is set, and exceeding the limit is *not* an option. This, along with salaried work, promotes efficiency on the sides of both physicians and health-care administrators, whereas a fee-for-service system ultimately punishes physicians for efficiency. A global budget switches the perspective of healthcare. Hospitals save money when patients don't need to return to the clinic or have extra tests done. The state of Maryland

has changed every hospital to a global budget and every physician to salaried work, which has saved the state 100 million dollars over a two-year period. The hospital will suffer no ill-effects in a community that is healthy enough to not utilize the hospital's services. The remaining 100 million dollars is saved by hospitals, spent on research, or used for internal improvements of the system (Cornish and Hsu). The global budget, in combination with salaried physicians, provides the greatest reduction in cost while freeing the intrinsic motivations of physicians to increase quality of care.

In the United States, we face a crisis of healthcare quality and cost. The answer to these problems lies in the way we compensate our physicians. Fee-for-service will no longer suffice in a country where most doctors are employed. Pay-for-performance only exacerbates the problems of cost (as shown by the UK), while still failing to empower physicians (not dissimilar to the problems of capitation). These decisions, while not in your control now, will be your responsibility in less than 10 years as you become the next generation of doctors who cannot decide their pay, the healthcare administrators who cannot interpret unintelligible policy, or policymakers who have inherited this most imperfect system. ❑

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Argument Analysis of Malcolm X's "To Mississippi Youth"

Hamilton Hardy

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In 1964, the Civil Rights Movement experienced one of its greatest achievements. The Civil Rights Act banned job discrimination based on race, sex, religion, and national origin. This great success was uplifting but was diminished by the internal tension within the civil rights organization (Lumin Learning 1). Despite having advanced civil liberties, racial hate crimes still occurred in abundance the summer after the bill was passed. Alan Taylor shows pictures of gunshot holes in cars and National Guard members beating down non-violent protesters (Taylor 1). This violence motivated continuing fractures on the most effective way to achieve racial justice. Malcolm X, a dissenting opinion from the majority, believed in using any means necessary to advance civil

liberties and was strongly opposed to non-violent protests. In December of 1964, Malcolm X explained his point of view to 37 youth from Mississippi. Sponsored to attend a week-long convention and hear from various civil rights leaders, these youth received a variety of perspectives on what their role could be in advancing civil rights. Despite Malcolm X's passion for his point of view, his speech, "To Mississippi Youth," at this convention provides the Mississippi delegates with a choice. His central thesis that the youth must make informed decisions about how to advance civil rights is shown as he explores perspectives from nonviolent and violent protesters and how history has changed when such strategies were employed. By combining contrary views with his own, powerful historical examples that enhance his arguments, and leaving it up to the youth to decide what they choose to do, Malcolm X makes an effective argument on the possibility of change.

Malcolm X offers many critiques of contrary viewpoints and is quick to point out that he considers his stance right; however, by recognizing these disputations, he increases the overall ethos of the piece. The delegates of Mississippi had just come from a week of lectures and speeches by other civil rights leaders and members of the Big 6, a term to refer to prominent civil leaders at the time, like Martin Luther King (Lewis 1). Malcolm X, knowing that these youth had already heard many of these people argue that nonviolence was the only way to advance civil rights, was still fair enough to respectfully recognize and "congratulate anybody who can be nonviolent in the face of [opposition]" (El-Shabazz). Even beyond this initial observation, Malcolm X makes it a point to discuss

opposing views throughout the piece. In the next section, Malcolm X observes the tsunami wave of black-on-black crime and the hypocrisy of civil rights protesters, particularly nonviolent ones. While an activist may be nonviolent toward white America, they "rumble" with another Black American in a minute (El-Shabazz). While his argument is effective at advancing his discouragement of nonviolent protests, it also enhances his ethos in two ways.

Malcolm X uses this example most of all to prove the need to think for oneself and put himself in a position to empathize with nonviolent protesters. Without an outlet for expressing pain and anger over racial injustice, Malcolm X implies that nonviolent protesters are misappropriating their feelings onto members of their community. He explains, "They are hating [their] friends and loving [their] enemies" (El-Shabazz). Evidence draws a possible corollary link. Barry Latzer writes that the 1960s saw the highest rates of "black-on-black" violence in history (Latzer 1). While this isn't definitive proof that emotions caused by injustice led to an increase in violence, the point of Malcolm X mentioning this is to give him something he can relate to with nonviolent protesters. He chooses to use any means necessary to advance civil rights, but he still shares the pain of seeing discrimination and hatred every day. While his piece often makes heavy blows against the logic that motivates nonviolence, he still recognizes the humanity in any movement that seeks to advance civil rights.

Malcolm X also uses his claim of hypocrisy to offer a condition. He will only participate in nonviolence when he sees it being practiced by everyone. He explains that it's not fair to stand down to members of the KKK who lynch and bomb whoever they please while practicing non-violence. The important thing to recognize from this is not whether the condition will become true and everyone will be nonviolent, although that would be good, it's that he sets a condition in which he needs to change his view. He is willing, under specific circumstances, to forgo all of his claims that he makes in this speech for a perspective he is initially against. In a traditional argument, one would assume that their position would never change and that their solution is the only way forward, but Malcolm X is humble enough to show that he may not always be right. This concession bolsters his credibility and central argument. The youth of Mississippi need to rationalize and offer up conditions on their claim. Nothing is painted in black and white, and the youth need to analyze solutions before drawing conclusions.

While Malcolm X does try to remain neutral and show both perspectives, it's clear by the end of the speech who's view he wants the youth to choose. A particular area where Malcolm X's ethos is weakened is through his use of loaded language. Terms used to describe ideas or considerations from nonviolent protesters include "disarm", "not fair", "defenseless", "audacity", and "asinine" (El-Shabazz). In comparison, when he discusses his own ideas, he uses words like "accomplishment" and "progress" (El-Shabazz). While this word choice is damaging to Malcolm X's overall credibility, it doesn't threaten the effectiveness of the

speech. When he tells the youth to make informed decisions, he is giving them a tool to identify the bias that he may have. Malcolm X's loaded language doesn't sway them because recognizing bias, looking at both views, is exactly what he is trying to teach them.

The second part of Malcolm X's speech that demonstrates his effective argument is his powerful historical examples. In the middle of his speech, he uses an example from World War II. Before the war, job variety for Black Americans was extremely limited, excluding jobs in the military and manufacturing. A particularly potent line comes when Malcolm X discusses the rationale for declining military service to people of color. He explains,

> We might shoot at some targets that they [the government] hadn't picked out…. Any thinking man knows what target to shoot at. If a man has to have someone else to choose his target, then he isn't thinking for himself—they're doing the thinking for him. (El-Shabazz).

This call back to his central thesis on thinking for oneself is a powerful example of how regardless of when or where, people always have the chance to fight for their rights.

Continuing with his example, Malcolm X explains that as the war began, opportunities started to arise as the U.S. pressed for more manpower. The overall message that Malcolm X draws from this historical example is that equality only occurs when there is sufficient pressure, whether that be international or domestic. The country is "morally bankrupt" and to advance their rights, Black

Americans must use any means to defend themselves (El-Shabazz). Malcolm X uses these examples and solutions in two strategies. The examples advance the argument of his point of view, but they also offer a historical and logical background for the youth of Mississippi. The youth did not experience the 1940s, and so, by using effective logos and kairos, Malcolm X connects them to historical background that can help them decide what path of racial justice they choose to proceed on.

Malcolm X effectively uses historical examples to increase his logos and kairos, but he does leave out a few elements that could have boosted his argument. Interestingly enough, Hitler studied the American South as a test study for how he would "deal with" European Jews. In fact, before the war, many Black American's believed their condition was worse off than anti-Semitism in Germany. Black newspaper headlines read "Adolph Hitler, KKK: Germany Is Doing to the Jewish People What the South Does to the Negro" (Burnett). Nazi Germany even called out the U.S. for public lynchings and offered that such incidents were no different from things like the Night of Broken Glass (Burnett 1). Bringing up this example would have enhanced Malcolm X's point about the moral bankruptcy of the nation. Malcolm X is effective at advancing his arguments with logos and kairos, but there could have been more examples, more historical context to help the youth decide.

1964 may have been a divisive year on how civil rights should proceed. Despite the optimism, despite voter registration drives, Malcolm X was worried about the

future success of nonviolent protests in fixing a corrupt nation. His speech "To Mississippi Youth," through its use of historical context and recognizing opposition, creates an effective argument on the role and importance the youth have to play as the next generation. Malcolm X wants people on his side, but more importantly, he wants a unified group of people. He wants an impact, and he knows that whatever path the youth choose to take, he will do all in his power to help them find their way. ❑

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Standardized Testing: A Discriminatory System

Annette Vazquez

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Food stamps, Sub for Santa, fee waivers, squeezing a family of six into houses meant for families of three was less than ideal growing up. It built character, but character does not always get you superlative educational opportunities. It is easy to get stuck in the perpetual cycle of poverty, especially when the current education system disallows underprivileged students to rise through the ranks. It is even easier to get stuck in the cycle when you are a first-generation student, coming from a set of immigrant parents. A particular aspect of the education system that continues to hinder student success and post-secondary instruction is the use of standardized tests, such as the ACT and the SAT, in undergraduate college admission decisions.

My siblings and I all got the same ACT score despite having different grade point averages and collegiate

experiences. I started to wonder just how accurate the standardized testing system is and whether it was accurate at all. Were there factors working against us, and if so, are there factors currently working against thousands of other students with similar backgrounds?

The outdated ideology that a singular test score should dictate a student's post-secondary education is not only outrageous but has become a modern-day example of systematic discrimination within the educational apparatus. Racial minorities, students with disabilities, and students from lower income homes are put at a prodigious disadvantage when they take the SAT, ACT, or both. The monopoly that the ACT and the SAT hold over standardized testing allows those testing franchises to have a stronghold over college admissions. Standardized tests should not be used in undergraduate college admittance determination because of the inequitable nature of the SAT and the ACT.

Cultural Bias

In 2019, white American students on average scored 181 points higher on the SAT than African American students, and 131 points higher than Latino and Hispanic students (Schaeffer). This disparity in scores has been a consistent trend for years, showing that white American students score higher on the SAT than their minority counterparts, but this is no accident.

Cultural bias in test construction has been one of the leading concerns with the SAT since the conception of

standardized tests (The African American Policy Forum Writers). Jay Rosner, executive director of the Princeton Review Foundation found that all 138 questions that were prescreened for the SAT where regularly scored higher on by white students than Black students (Rosner). Rosner saw that any test questions that were scored higher on by Black students than white students were merely thrown out by the testing board. This behavior is inherent discrimination, as instituting questions favoring white students show that test creators either lack cultural adaptation skills or simply do not take cultural adaptation into consideration. This practice promotes a problematic trend: white American students consistently scoring, on average, higher on the SAT than Black students. This trend not only obstructs Black student's college admission rates but their application rates as well because of how significant standardized testing scores are within the admissions system.

The white American student, particularly white students who come from a greater income, tends to be exposed to more stimuli that prepares them for standardized tests than their African American and Latino/Hispanic counterparts, especially if their counterparts are under a certain income threshold (The African American Policy Forum Writers). Experiences, such as going to zoos, museums, vacations, are all a part of a wealthier experience that could potentially expose students to certain vernacular and other information that could be on a standardized test. The students who do not have those experiences are placed at a disadvantage because they do not have the same background in animal

terms, cultures, languages, and history. This disadvantage makes it challenging for even well-applied minority students to do well on the tests, even if they study profusely because standardized exams are formatted in a biased manner. When minority students are applying to colleges, it is unfair that a singular test score from a culturally biased exam is going to control what form of post-secondary education that student will be able to access coming out of high school.

Stereotype Threat

Stereotype threat is a term coined by Joshua Aronson and Claude Steele (1995) after completing extensive research on the impacts of stereotypes on students and how it affects the way they perform on standardized assessments (Aronson). Their research indicated that when a student was aware of a certain stereotype towards their gender or race, it undermined their intellectual ability; those students scored lower on standardized exams. In Aronson and Steele's research, they had a control group where students were told that their race was intellectually substandard to another. Another group was not inflicted by any stereotype, and this group did substantially better than the cluster that had a certain stereotype enforced. This research has been put to the test nearly 300 times in published peer-reviewed journals, and almost all have seen that stereotype threat is a significant factor in the way a student preforms on standardized tests (Stroessner and Good).

Marginal groups are regularly discriminated against and often fall victim to stereotype threat. The standardized testing monsters, the ACT and the SAT, do nothing to mitigate the effects of stereotype threat. The lack of action to combat the negative effects is generally unacknowledged by the general education system, leaving minority students disproportionately at a disadvantage than others. A student may not know that they are identifying with a stereotype, but their subconscious actively perpetuates the essence of the stereotype. When minority students do worse on standardized tests, the scores inherently affect their colligate futures and possible scholarship opportunities. The article "Facts About Race and College Admission" by Jon Marcus explains, "Enrollment in the 468 best-funded and most selective institutions is 77 percent white" (Marcus). This racial gap has barley been remedied over years of educational reform. Not only is diversifying college campuses important for the students who are minorities, but it is important for the development of the establishment itself.

Impacts: Minority Women

Minority women tend to do disproportionately worse on standardized tests in comparison to males of their own race, white women, and especially white males (Connor and Vargyas). According to the article "83 Seconds" by Andrew Hacker,

> What Yale, Stanford, and others know is that women make up only 38 percent of the SAT's 700-

> plus mathematics pool and 34 percent of the ACT's 33-plus circle. (Hacker)

Women are portrayed as lesser learners when they do not perform on par with male students, when truthfully there are an abundance of stereotypes towards women and those stereotypes could be affecting their scores unintentionally. Women are often told they are not as good at math and science than their male counterparts. This discrepancy has hardly changed over the years, but women actually tend to graduate with higher grades in college institutions than men do (FairTest, "SAT, ACT Gender Gaps"). The ACT and the SAT are generally used as tools to deduce how a student will do in their/her/his first year of college, but all it seems to be measuring is how good a student can take a standardized examination.

Impacts: Students with Disabilities

Students with disabilities are a marginalized group also impacted by standardized exams and drop out at almost a 20% higher rate than their classmates (FairTest, "Standardized Testing and Students with Disabilities"). When students with disabilities are not accommodated, their standardized testing scores are going to be affected. There are times when a student is allowed more time to take their standardized exams, but this process could take days, weeks even. When these students are given more time to take their exams, they can often feel inadequate in comparison to their peers because they feel they are not smart enough to do it in the regularly allotted time. When

their differences are perpetuated in an educational setting, it can affect their mental health.

Laws are set in place to give individuals with disabilities the fairest setting when they take standardized tests such as the ACT or the SAT, but it is not regulated. Legislation differs and is implemented in a variety of ways from state to state, and the issue with this is that not all legislation is created equally. When students with disabilities face lack of accommodation or even an unfair amount, those students' scores on a standardized test are radically affected, therefore affecting their future in a collegiate institution. There is no set law that can apply to all schools and districts that could level the playing field for students with disabilities, because looking at these students through a solidly objective lens is redundant. Students with disabilities are being discriminated against by the standardized testing system because these tests are not a fair measuring tool to determine whether any student is "smart" enough to go to a certain institution. Students should have opportunities to work on their own personal goals and skills that will help them in the long-term rather than focusing on a test that only enhances the problems that these pupils face.

Impacts: Poverty and Environmental Racism

Students from lower incomes can come from any background. They could be disabled, a minority, or any gender. Poverty does not discriminate, but the ACT and the SAT do discriminate against those who are impoverished.

According to the SAT Group Profile Report, students that came from families making more than $200,000 a year scored, on average, around 400 points higher than their peers who came from families making less than $20,000 a year (CollegeBoard). On the ACT, according to a study from the National Council or Community and Education Partnerships, it was found that only 11% of students whose families made under $36,000 a year met the ACT standards (Monell). It was also noted that 62% of students who came from families making $100,000 or more a year did meet their benchmarks. This disparity could be due to a variety of reasons.

Educational disparities in lower income areas are one of the largest issues contributing to the lack of proper education for students who are required to take standardized tests if they want to go to certain institutions (The African American Policy Forum Writers). Underprivileged students already suffer from the potential of cultural bias stemming from the white experience, but what about the cultural bias that assumes that every student has the same access to learning materials as others? Textbooks, technology, adequate teachers, field trips, all differ from school to school. Not all schools are created equally, and not all have the same funding. Wealthier students are more likely able to access better education, supplemental instruction, and helpful materials in comparison to their lower income counterparts, allowing them to do better on standardized tests.

Although any student from any race or ethnicity could come from a lower income home, it is less likely for white

families to fall under the low-income definition (Simms et al.). About 25% of white families would be considered low income in 2007, while nearly half of Black and about 63% of Hispanic immigrant families would fall under the low-income definition. Minorities tend to suffer from different factors, such as environmental racism, stereotype threat, and a higher chance of them being lower income, which could affect their test scores (The African American Policy Forum Writers).

Environmental racism is the proven idea that lower income minorities who live in poorer neighborhoods tend to be victims to lower air quality and inadequate drinking water. These environmental influences affect minorities at inconsistent rates and contribute to health problems. These external issues could affect a pupil's ability to learn material, and the problem with this is that minorities are already put at a disadvantage when stereotype threat is accounted for. Despite national attention on these matters, the government continues to allow for systemic discrimination within the educational system by allowing institutions to use standardized tests in admission determination.

Alternatives to Standardized Testing

Regardless of the numerous amounts of sources that prove that the use of standardized tests in regard to college admittance is discriminatory against various factions of students, the argument still remains that standardized tests are a "neutral yardstick" in college admissions (Buckley et al.). In the book *Measuring Success: Testing,*

Grades, and the Future of College Admissions, it's argued that standardized tests are important tools for admissions officers to completely gage a student's worthiness of entering into a certain institution. The book states that information relating to college admission testing is "fragmented and incomplete" (Buckley et al.). They assert that the tests themselves need to be modified but should be continually used because using grades as a base for college admission will not work.

The largest issue with the claims that testing should continue within the literature is that standardized tests affect a disproportionate amount of minority populations as well as disabled students and lower income students. Period. There is no escaping cultural bias, stereotype threat, environmental racism, or poverty. Simply modifying tests over time has proven not to work, because the creators of the tests see trends that are consistent, such as the trend that African Americans do worse on standardized tests (Rosner). There has been virtually nothing done to mitigate the effects of these external issues within the standardized testing system after decades of using them as college admissions tools. Is that supposed to change suddenly? It won't, but there are schools over the years that have chosen to be test-optional, meaning that they don't require students to send in ACT or SAT scores.

In 2019, 1,050 colleges reported as test optional in the United States (FairTest, "Data Show Test-Optional Admissions Successes"). Not only have these colleges mitigated the effects of discriminatory testing, but they have also seen diversity rates at their universities rise.

When Hampshire College became test optional, class diversity increased by 10% in two years (Lash). When standardized exam scores are out of the picture and students are allowed to apply to universities through alternative methods, these universities see an increase in applications from students who are lower income and minorities.

Wake Forest University, a test optional college in North Carolina, saw that their classes had an increase of students of color in their classrooms (FairTest, "Data Show Test-Optional Admissions Successes"). In 2011, Wake Forest University also saw that the number of students who applied that were eligible for Pell grants doubled in the three-year period after doing away with standardized testing scores. This increase in diversity is a general trend among universities that have stopped accepting ACT and SAT test scores.

Alternative admissions methods are creative and allow students to be looked at as something other than a singular test score. At Pitzer for example, ACT/SAT scores were waived if a student graduated in the top tenth of their class and held a 3.5 GPA. Other schools, such as the University of Chicago, allowed students to submit academic-based portfolios. An abundance of unconventional admissions processes could work just as well as standardized tests, if not better. There is no need to lessen the already low chances of a minority, a lower income student, or a disabled student from getting into or applying to college.

Conclusion

The ACT and the SAT are outdated examination franchises that no longer need to have control over the college admissions system. It has been proven time and time again that standardized exams are not good predictors of a student's first year of college or judge their range of intelligence. The ACT and the SAT measure demographic characteristics, not a student's ability to learn and to succeed in their post-secondary education. A person should not be defined by a singular test score because different students have different capabilities. Admitting more minority students, students with disabilities, and students from lower income backgrounds will sustain and boost university diversity rates. Diversity is not only the key to inclusion, but innovation and knowledge. Different students from different backgrounds can educate others and create a more inclusive and knowledgeable culture at a university.

It's time to stop subjecting students to racist tests. It's time for the government to intervene and put a stop to standardized tests being used as college admissions tools. Educating students and universities on the possibility of test optionality is the first step in creating a nation that has fair college admissions. Calling legislators, talking to people with power in educational settings are also great ways to reach out and possibly make a difference. Doing this could result in the SAT and the ACT no longer taking such a monstrous role in admission systems, therefore creating fair opportunities for students who were undermined before. Systematic discrimination should not

exist in today's education system and it's time for equality to persevere. ❑

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Mental Illness and Suicide: Combating Stigma with Compassion

Ella Morgan

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*If you or someone you know is struggling with thoughts of suicide, call the *National Suicide Prevention Lifeline* at 800-273-TALK (8255). You can also reach out to the Crisis Text Line, a free, 24/7 confidential text messaging service that provides support to people in crisis when they text 741741.*

We are influenced daily by an invisible force that shapes our opinions, forges our reactions to situations, and manipulates the connections we make with others who are different than ourselves. Though it is so influential in our lives, we may not even realize how it affects us, for it thrives in silence and flourishes in ignorance. Fear is its accomplice, the "elephant in the room," its forte and its pleasure. This invisible force is called *stigma*, and nowhere

is stigma more prevalent nor more dangerous than it is surrounding mental illness, and particularly surrounding suicide.

"Stigma" is defined in many ways. It is described by some as a negative viewpoint of an individual based on a certain characteristic. This negative viewpoint originates from stereotypes instilled in a culture or community. These stereotypes lead to prejudice, prejudice leads to discrimination, and discrimination leads to stigma (Mayer et al). In reality, stigma is both caused by and causes ignorance in communities. That ignorance is often so instilled in a culture that individuals in the community do not recognize the manipulative force for what it is, simply accepting it as the norm and seeing no other way to live. In this sense, and especially in regards to mental health, stigma is also likely to expand its grasp to become self-stigma, which occurs when an individual meeting the criteria of the stigma sees themselves solely in the light of the stigma. For example, an individual suffering from anxiety disorder, living in a community saturated by stigma, may come to associate themselves with words like *weak*, *crazy*, or *dangerous*, rather than recognizing the illness as what it is and receiving the necessary help (Mayer et al).

"Stigma" can also be defined as "a disconnect between how we view physical and mental health" (Troia). Looking at it from this point of view, we realize that stigma thrives when we disassociate mental illness with what is considered to be a "real illness." Rather than regarding a person with a mental illness in the same way we would

regard an individual with cancer or an individual with a broken leg, there is a disconnect because of the lack of visible or physical symptoms. Because of this disconnect, individuals with mental illnesses are often perceived by others or by themselves as weak, shameful, angsty, or out of control rather than brave, courageous, or strong for coping with their illness and pushing through (Westin). Stigma originates from "what is perceived to be under a person's control," and with the majority of people viewing mental illness as a choice, whether intentionally or unknowingly, the stigma is enhanced (Westin). The emotional and behavioral symptoms of mental illness are often disregarded by others or thought of as an overreaction to a situation, and other symptoms are often hidden or denied by the struggling individual because of the anticipated negative reactions of others (Mayer et al.). This behavior is stigma in action, causing unhealthy disconnection rather than healthy connections in communities.

Communities suffer when stigma is accepted as the norm, and no one suffers more than the individuals who struggle with mental illness and suicidal thoughts and behaviors. To these individuals, stigma forces onto them unbearable pressures, pressures that lead to reduced self-esteem, denial of the presence of mental illness, suicide ideation, refusal to get the help they need, social isolation, and/or secrecy about previous suicide attempts (Mayer et al.). Stigma is stifling and suffocating to those who are suffering. We must change our habits as communities and as individuals to confront the stigma, reduce the suffering of individuals who experience suicidal ideation, and create

an environment where mental health can be openly discussed and where receiving help is normal and natural. We must cultivate compassion if we are to achieve these goals; compassion is key to this becoming.

In order to develop compassion, we must start where we are, and understanding what the stigma is is an important first step to overcoming it. Once we recognize the stigma for what it is and understand better the negative impact it has on the individuals who fall under it, a number of other steps we can take to reduce the stigma become apparent. Each of these steps revolve around cultivating compassion. This change begins on a personal, individual level; for as the individuals that make up a community change, the community will begin to change as well.

There are simple things each of us can do to help reduce the stigma and to cultivate compassion within ourselves (towards others and towards ourselves). Essential to reducing the stigma is understanding and communicating that suicidal thoughts and feelings are not choices. Nationwide Children's explains,

> [A] choice usually involves making a selection based on multiple factors or preferences. Sadly, an inability to make rational, life-affirming decisions is a hallmark of suicidal thinking. Intense [emotional] pain, hopelessness and a narrowed, negative view of the future interferes with balanced decision-making. ("Don't Say It's Selfish")

Understanding this concept is a vital part of the next compassionate step to reducing stigma: changing our language about suicide.

A change of language is simple. For example, instead of claiming that an individual "committed suicide," or "made a choice," we can say that they "died by suicide" (Powell). This change reflects our understanding that suicide is not a choice. It shifts our perspective to see that the blame is not on the person, but on the underlying conditions that led to that action; it shifts the focus from labeling the struggling individuals to addressing the situations and the experiences they were having during a difficult time in their lives. These and other small changes to our language about suicide will have a big impact, as they will emphasize that there is more behind suicide than we initially may understand. That, in turn, will decrease the shame an individual may feel regarding suicidal ideation and increase their comfort in seeking out and receiving help.

Since stigma stems from a lack of understanding and from fear of communicating about mental health, it stands to reason that as we are open in communicating about mental illness, we combat the stigma and show compassion towards those with mental illness who may experience suicidal thoughts. However, sometimes the approach we take to spreading awareness on a broader community level unintentionally increases the misunderstanding and stigma. Many statistics demonstrate how widespread the suicide epidemic reaches and how the numbers of people who have died by suicide in many different age groups have

skyrocketed in just the past thirty years, but there is a significant difference between raising awareness of the growing issue of suicide and reducing the stigma surrounding it. Raising awareness may include the sharing of statistics with an audience, but that does not always help the audience to understand *why* the problem is such a vast one, and without a compassionate understanding of the *why*, the change we hope to pursue is unable to happen.

While raising awareness often means well, the emotional and psychological effects of a mental illness are often overlooked and inadvertently disregarded when all that is shared are statistics. Stigma is not reduced by statistics; it is reduced by a change in awareness, attitude, and capacity to be compassionate in *individuals*. "[People] are not statistics… [They] are more than numbers on a graph. Being human means you deserve love" (Troia). In our efforts to decrease the rates of suicide around the world, it is absolutely crucial to become more aware of what a suicidal individual is experiencing and to become more compassionate towards them in their suffering.

This personal connection and understanding is the only way to reduce the stigma, and reducing the stigma is the only way to truly reduce the epidemic. Asking questions with the intent of listening to and learning from those who struggle with suicide ideation is a simple way to show compassion and create a culture where mental illness is accepted as a real illness and getting help for it is viewed as a normal and natural thing to do. Clear and open communication leads to greater understanding, and we can grow in that understanding simply by having a

conversation (Troia). As we listen without judgement and are empathetic towards people with these struggles, we remember that each person is an individual within their experiences (Wang). Listening to understand, rather than listening to respond, is what creates a space where mental illness can be discussed openly and comfortably and where those struggling with mental illness and/or suicidal thoughts can feel empowered to seek and receive the help that they need.

Some may be concerned that asking questions about suicidal thoughts will put those thoughts into a person's head and be the cause of those thoughts. However, this is a common misconception; "asking [questions] does not make [someone] more likely to attempt suicide" ("A Mantra of Hope"). When you are worried about someone, "[taking] action is always the best choice," and that includes "[being] sensitive, but [asking] direct questions" (Mayo Clinic). In fact, oftentimes, the space to talk about what they are feeling and thinking is what a individual with suicidal ideation needs most, and you can create that space and start that conversation by asking questions, then actively and compassionately listening to their story. Listening without judgement, asking how you can help, responding with compassion and patience, and encouraging them to get help will empower the person who is struggling ("How to Deal with Suicide").

Some may also be skeptical because of a lack of hope, wondering if change is even possible in a society where compassion is not widely viewed as important. However, there have been changes in recent years to the availability

of quality help for those who are struggling. Resources, such as the National Suicide Prevention Hotline (and its counterparts in other countries) and the Crisis Text Line, now provide almost instantaneous emergency help to people in crisis from trained professionals and counselors. In addition to these large-scale organizations and helplines, there are several local ones. These include the SafeUT app and Live On Utah, which are dedicated to fighting the stigma and providing support and professional guidance for those suffering with suicidal thoughts and behaviors as well as those who have lost loved ones to suicide. Nancy Lublin, a cofounder of the Crisis Text Line, states that "the goal… [of these organizations is] to make it easier for people to get help than to avoid getting help" (Lublin). These organizations and helplines not only support the individuals who are in crisis, but also create a culture of compassion. These are opportunities that have made themselves present and available in recent years. Positive change has been seen recently, and positive change can continue to grow and to impact our communities.

While these broader community efforts to create compassion have so far succeeded in many ways, improvement can still be made, and we can change many things. There are ways that individuals can reach out to individuals that a large community cannot approach, simply because individual suffering needs individual attention. Where the broad communities spreading awareness cannot reach, into the quiet, darkened, stigmatized corners, into the lonely, anxious, hidden personal sorrows—this is where the individuals of the communities must reach. Aching so personal deserves such

personal attention; individual pain so wrenching deserves the genuine compassion of another to begin the process of individual healing. The challenge to cultivate compassion within ourselves is one we must take up if we hope to help and support people who struggle with suicidal thoughts. Greater compassion within the individual is the only way to fight the stigma, to build communities where mental health is openly and comfortably discussed, and to create a society where individuals who experience suicidal ideation are able and willing to get the help they need. We must become more compassionate if we hope to save lives from suicide. ❑

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Hope for a More Resilient Generation: Addressing Mental Health in Schools

Katie White

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September 2013. *My arm hurts. The pain is worse when I look at it, so I stare ahead at the carpet.*

"Katie, is this okay? Not too tight?" The high school counselor is wrapping gauze around the diagonal cut directly in the middle of my left forearm. I shake my head; it's not too tight. The principal's been standing in the doorway, then finally realizes he ought to shut the door.

He sets the tone for our meeting, "That'll have to be stitched. I called your mom, and she's on her way here." The counselor gently asks me questions as the principal, a man in his 60s, continues to stare at me as if I'm in here for unruly behavior.

The counselor asks his last question, "Why are you doing this?" He motions to the other pink scars resulting from what my therapist calls non-suicidal self-injury. I don't know exactly why. I just know how I feel. I don't believe these men will understand. They don't know how a panic attack feels like being knocked down by a wave when you're out playing in the ocean. It slams into you like a concrete mattress that conforms to your body. The oxygen in your lungs is expelled all at once to make room for the water flooding in through your nose. Your body rolls, involuntarily, like a wave, head tucking, shoulders following. Your abdomen is tight, crunching into your front-flip, and knees pull in toward your chest. Your mind is a flurry of adrenaline, as you are sure you are going to drown. Just in time, the ocean spits you onto the shore, and you cough up salty fish water. You're unsure you can move, let alone walk. Your body is a sandbag of weight. Everything hurts like you haven't known you could hurt. The principal, the counselor, they don't understand how, when I cut, the pain, the guilt, the anger, they all stop, at least, for a little bit. I wasn't always this way. Here, in Duchesne, they don't understand that either. They didn't know me before the depression and cutting.

Both men are staring at me, waiting for an answer. "I don't know. I was just mad. I did something stupid last night, and I was mad at myself, I guess."

I moved to Duchesne, Utah in October 2012, just a few months before my 17th birthday. Even though I felt isolated and alone in an unfamiliar rural town, I was not alone in my struggles. When I got tired of wearing cardigans and

long-sleeved shirts every day, my peers began to ask me about my scars. I told them the truth. The truth broke down the stigma and many divulged that they, too, had felt depressed or anxious at one time or another. Some, like me, had used self-injury as a method of coping or had experienced suicidal thoughts. Within 18 months of each other, two vibrant young women in our school district died of suicide, devastating the community.

The youth mental health crisis reaches beyond the rural fields of Duchesne County. In the United States one in five youth suffer from a mental health disorder, including social, emotional and behavioral conditions (Malti 14). Nationally, suicide is the third leading cause of death for youth, ages ten to fourteen, and the second leading cause of death for youth, ages fifteen to twenty-four. "Half of all mental illness begins by age 14… Despite effective treatment, there are long delays— sometimes decades— between the first appearance of symptoms and when people get help" ("Mental Health"). In fact, it's estimated that nearly 80% of children who need mental health services will not receive them (Anderson).

> Mental health—an essential part of children's overall health—has a complex interactive relationship with their physical health and their ability to succeed in school, at work and in society. ("Children's Mental Health")

Without support and treatment, youth are at greater risk for school failure (Malti 14). Some have estimated that half of the students with a mental illness will drop out of high school because of the anxiety they suffer, as well as their

social challenges, and difficulty focusing (Gold). Even those enrolled in special education drop out at a rate of 37%, "the highest dropout rate of any disability group" ("Mental Health").

How do we respond to the youth mental health crisis? Students often spend more time at school than they do at home. By changing the school climate, we can better support and improve student health. This can be accomplished in several ways: by increasing the amount of mental health services offered at schools; by teaching students skills that will help them to develop resilience; by creating strong networks of social supports that include peers, teachers, parents, and community members; and by restructuring curriculums to emphasize academic engagement over standardized testing, including the use of pull-in services rather than pull-out services to destigmatize special education and improve the students' quality of education.

All students can benefit from learning skills that will help them become more resilient adults. Resilience is "the ability of an individual to develop and succeed despite adversity" (Noam 33). Research has shown common protective factors and traits among people who have overcome "higher trauma load or chronic severe adversity" (Horn 120). The most important protective factors reported are, consistent parenting and positive bonds with caregivers, strong social supports, and a shared sense of values (Horn 120). Common traits seen in these resilient individuals include, self-discipline, emotional regulation capacity, appropriate use of humor, altruism, and the

ability to harness social supports (Horn 122). The Substance Abuse and Mental Health Services Administration has also identified several key protective factors that make individuals more resilient to behavioral health problems, such as positive self-image, self-control, and social competence ("Prevention of Substance Abuse"). Developing resilience to adversity reduces the risk that students might use "morbid form[s] of self-help," such as non-suicidal self-injury, aggression toward others (such as bullying), use of alcohol or drugs, and food restriction or self-induced purging to cope with traumas and stressors (Peterson 21).

To foster resiliency in students, schools need to implement more collaboration with programs that place a heavy focus on developing resiliency in youth. Programs, such as RALLY (Responsive Advocacy for Life and Learning in Youth), work with kids by focusing on their various levels of development. RALLY uses early identification to determine each child's strengths and weaknesses so they can help them develop the resiliency skills they lack. RALLY focuses on "the child's inherent ability to move forward" rather than viewing them through "the lens of problems" (Noam 37; Malti 20). Another model, The Resilient Classroom, uses PBIS (Positive Behavioral Interventions & Supports) to encourage the development of resilience. By taking the approach of establishing resiliency at a young age, we are preparing children to be successful in adapting to their circumstances when they face adversity.

Addressing the fundamental human need to connect with others supports the mental health of developing children and increases their academic potential. Tina Malti explains, "A healthy child is much more likely to be academically successful, and an academically successful child is more likely to be mentally healthy" (16). Feelings of accomplishment and success are vital to mental health. Thus, it is important that schools work with students to ensure that their intellectual needs are being met. Many schools try to meet the special needs of students by using pull-out services or placing them in a special education program (Noam 42). Pull-out services often compete with instructional time and further the stigma surrounding mental health and special education needs (Atkins; Noam 43). Some school programs have started to use pull-in services instead. The Resilient Classroom believes that mental health support systems do not need to fall outside of the classroom (Doll 137). In fact, they "emphasize natural supports like teachers, friends and families as the principle source of socioemotional support for students" (Doll 137). Social supports are one of the key protective factors that aid a person in becoming resilient. For example, after the second Lebanese war, a school intervention invited "children to share and seek support from peers; participating children demonstrated a decrease in PTSD symptoms and greater adaptive functioning" (Horn 124). The SEYLE (Saving and Empowering Young Lives in Europe) intervention study showed that teaching students about mental health and suicide prevention also cultivated peer understanding and support (Wasserman 1). De-stigmatizing mental health

problems and creating peer support helps students feel more comfortable reaching out for help when they are in need (Wasserman 2). RALLY brings a network of services to schools so that students who would usually be pulled-out can "remain in their regular environments and achieve success" (Noam 43). When students are connected to each other, they are better able to work together and learn from each other.

Pull-in services contribute to the positive environment of academic engagement. Education reform has put intense emphasis on report cards, standardized state testing, and unrealistic goals for academic gains for so long that "students were coached to pass tests rather than taught a rich curriculum to prepare them for life in the 21st century" (Bentsen 2). Instead of focusing on standardized testing, schools should be focused on engaged learning. The Resilient Classroom model emphasizes academic engagement as an indicator of success in school (Doll 137). Some indicators of academic engagement are,

> on-task behavior…completing assignments, complying with teacher requests, seeking help when appropriate, volunteering to answer questions, and engaging in assigned tasks….Students who also strive for knowledge, set personal goals for success, and regulate their concentration and effort will show even higher levels of school success. (Doll 137)

This focus in school teaches students the skills needed to be effective learners, thus preparing them to be more successful adults.

With every proposal comes the question of funding—however, we must consider what mental health problems are currently costing us. Depression is now the leading cause of disability worldwide and largely contributes to the overall global burden of disease ("Depression"). Speaking specifically about the United States, 18.5% of adults experience any mental illness in a given year ("Mental Health"). 46% of homeless adults staying in shelters "live with severe mental illness and/or substance use disorders" ("Mental Health"). In a special report given by the Bureau of Justice Statistics, it was reported that more than half of all prison and jail inmates have a mental health condition (James 1); 70% of youth in juvenile justice systems have a mental health disorder, as well ("Mental Health"). Mood disorders are now the third most common cause of hospitalization for people aged 18-44 ("Mental Health"). Altogether, "serious mental illness costs America $193.2 billion in lost earnings per year" ("Mental Health"). Taking preventive measures by developing a more resilient generation will cut costs and ensure a more hopeful future for our nation.

The government has poured money into education reform for two decades, reform that has seen little progress (Malti 17). We have the means to fund an integration of mental health and education in public schools; we just haven't been putting that money toward effective programs and services. On the state level, many policy makers struggle to understand their state's funding formula, this makes it "difficult for them to determine what changes are needed to encourage innovation" (Griffith 1). While each state has a different system, they do have many similarities,

and once those similarities are understood, it becomes more comprehensible what a state's formula is capable or incapable of doing (Griffith 2). Still, funding depends on what we prioritize. Once parents, schools, politicians, and other stakeholders care about mental health, change will happen (Wasserman 10).

It wasn't until I was 21-years-old that I was diagnosed with Post Traumatic Stress Disorder. The trauma I experienced occurred when I was 13-years-old; my teachers were aware that a significant event had occurred, and they noticed changes in my behavior thereafter, changes that resulted in Cs instead of As on tests and a parent-teacher conference regarding defiant behavior in class. I know my teachers cared deeply for me. But, as Principal John Hurley explained in an interview with PBS News Hour, most teachers' training in mental health is one chapter in a book that they cover in one day (Gold). Mental illness is complicated with all sorts of confounding factors. The one thing research has unequivocally shown is that early intervention can reduce severity of the condition.

Unfortunately, I did not receive early intervention. But I fought hard to overcome my depression and anxiety. In my experience, recovery is not perpetual. It is a constant effort, involving ups and downs and small steps forward that eventually take you the distance. RALLY explains, "[T]he ability to develop and succeed despite adversity… is not stable, but rather continuously changes and develops in interaction with an individual's social context" (Noam 34). For the first time, I am receiving treatment for symptoms of post-traumatic stress thanks to Utah State

University's Counseling and Psychological Services. Though I have had periods of stability and healing in the past, for the first time in five years, I can see a real and attainable future for myself. My family relationships are healing; I am gathering new social supports; I am successful in my full-time job as a manager; and I am loving every moment I spend on campus, learning and engaging with course materials.

I can tell you how a good day feels like being in the ocean in the hot summertime with your friends; how the sun warms your whole soul, while the water cools your skin; how the water takes the weight from your body and cradles you. You are present here and now. You and your friends all hold hands in a chain, facing the tides as they roll in and time the perfect jump, so you can roll with the wave. You smile until your face hurts from laughing. And if a wave does knock you under, you still have your friend's hand in yours to pull you up.

As adults, we know pain is inevitable. But suffering is optional (Mager). Addressing mental health problems eases the burden on both individuals and society. Research has shown us how to combat the youth mental health crisis, through increased mental health services in schools, development of resilience, strong systems of social support, and increased focus on academic engagement. These improvements will yield positive change. By implementing them in schools we have hope for a more resilient generation and a brighter future for our nation. ❑

*If you or someone you know is struggling with suicidal thoughts, call the *National Suicide Prevention Lifeline* at 800-273-TALK (8255). You can also reach out to the Crisis Text Line, a free, 24/7 confidential text messaging service that provides support to people in crisis when they text 741741.*

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Speaking without Talking: The Power of Introverts

Claire Christiansen

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It's a Friday night, and while my peers bask in the glory of the weekend through parties and dances, I delight in the quiet of my apartment and the reprieve of conversation, alone at last after a week filled with people. I might read a book, watch a movie by myself, or simply sit and relax. Does this sound fun on a Friday night? Most people wouldn't think so. However, if you can relate, congratulations: you're part of the ranks of society's self-proclaimed introverts, and despite the negative views we're often subject to, introverts are making a comeback.

A search of the term "introvert" on Google Images confirms the skewed perception society has of those who classify with the word. Pictures surface of individuals with paper bags over their heads, moping faces, hiding behind their hair, or alone on park benches. What a revelation!

Should I, myself an introvert, wear a paper bag over my head? It might be a good way to avoid conversation on the weekdays. However, I hardly think those images truly describe the average introvert. Therein lies the dilemma: introverts are not always shy, depressed, unconfident, and unhappy with themselves and thus should not be labeled as such. There are many common misconceptions about introverts, and the rest of the population—extroverts, shall we say—would benefit from understanding a thing or two about their more reserved counterparts. In order to diminish the often-negative stereotype associated with introverts, it is crucial that society learn to understand and value this personality type and appreciate the balance that comes with a world of both introverts and extroverts.

As the fresh age of 11, I came to the realization that I had a label conceived by my peers and their opinion of me: I was the shy girl. Fifth grade is a time when everything begins to stick. *He's the funny one; she's smart; he's the troublemaker*. These stereotypes formed relatively quickly, but they were long remembered, practically carved out on each individual's forehead. For a long time I didn't argue with my classmates. I was, in fact, less talkative and lively; raising my hand in class, talking to my teacher, and participating in group games and activities just didn't come as naturally or willingly to me, and I learned to make myself less noticeable. These actions may have all been signs pointing to shyness, but I believe I was simply at a malleable age, trying to find myself and my own kind of confidence. Instead of self-discovery, however, I began to feel that the reputation I'd earned was the one that had to stay. For whatever reason, I believed that because I had

been told I was shy so many times, my only option was to stay shy.

One of the most common misconceptions about introverts is that they are shy. Some are, of course, but it is not reasonable to assume that every introvert is. A recent article in *TIME* magazine, written by Bryan Walsh, states that shyness "is a form of social anxiety characterized by inhibited behavior. It also implies a fear of social judgment that can be crippling" (66). Introversion, on the other hand, describes someone who doesn't mind being alone. An introvert enjoys being social, but generally prefers not to engage and loses energy after spending time with people. While extroverts thrive off of interaction and enjoy being the life of the party, introverts prefer to blend in and avoid attention. This does not mean that introverts don't enjoy being social; it simply means that introverts operate differently and can only handle so much interaction before requiring time alone to recharge. In my case, I spoke up when I had to and associated normally with my peers, but I simply preferred listening and observing to talking and drawing attention to myself. I have always been keenly observant. From a young age, I took time to take in my surroundings before playing or interacting and was never one to run straight for the action. My mom tells me that at three-years-old I would observe everything going on at the playground and report back to her what I saw, noticing even who had the same shoes as she did before timidly joining the fun.

Acute powers of observation are one of the defining characteristics introverts possess. Laurie Helgoe, in an

article entitled "Revenge of the Introvert," writes that "while introverts have no special advantage in intelligence, they do seem to process more information than others in any given situation….Further, their brains are less dependent on external stimuli and rewards to feel good" (15). While introverts have the ability to process more material than extroverts, it does not always mean that they enjoy excess stimulation, specifically if it involves people. That's why an introvert might find a Friday night spent alone more thrilling than an evening spent in raucous partying.

We live in a country that prizes the extrovert and celebrates those who are outgoing, confident, talkative, and fearless. The early 20th century marked the beginning of a new ideal in America: the Extrovert Ideal. Susan Cain, author of *Quiet*, describes the cultural evolution from a society that placed emphasis on being a Culture of Character to becoming a society solely focused on developing the Culture of Personality. It changed "forever who we are and whom we admire" (35). The Culture of Character focused on improving self-worth and becoming disciplined and honorable, while the Culture of Personality idealized becoming bold and entertaining and examined the importance of being perceived in the right way (Cain 35). To this day, extroverts are still automatically seen by most as more attractive, smart, and interesting than introverts. Extroverts, who are outgoing, confident, and speak with ease, nearly always generate more respect in the workforce; whether or not their actual performance is superior to any introvert, their ability to communicate and persuade automatically puts them above introverts in

many cases. Consider, for example, who a manager would be more likely to hire: an individual brimming with confidence who aces the interview and speaks effortlessly or someone who might struggle with words, seems more nervous, and cannot schmooze for the life of them. Both may be equally, smart, hardworking, and beneficial to the company, but more often the extrovert triumphs. Unfortunately, it is no wonder that introverts often struggle to feel successful; it's an extrovert's world, and it will remain so unless light can be shed on all that introverts have to offer.

Besides possessing great skills of observation, introverts have the capability to focus intently for long periods of time, especially on solitary work. This can lead to impressive and innovative ideas as well as greater ease of skill-mastery. Significantly better at listening than their extrovert counterparts, introverts benefit immensely from their ability to concentrate while someone is talking. The aforementioned article written by Bryan Walsh for *TIME* stated yet another introvert advantage: "Introverts are some cautious and deliberate than extroverts, but that means they tend to think things through more thoroughly, which means they can often make smarter decisions" (67). Extroverts tend to seek rewards and ambition without thinking about the risk, while introverts are more likely to pay attention to warnings and heed with caution. It's the personality traits that are more difficult to recognize at a glance that are so valuable to society; introverts may not be able to charm, joke, or make speeches, but they can certainly think, listen, and care.

Neither end of the scale is superior; both introverts and extroverts are necessary to keep a balance in society. No one wants to live in a world where everyone tries to be the center of attention, just as the idea of a world filled with only thoughtful, quiet people doesn't sound very enthralling. However, this important idea of balance has washed away as the tidal wave of the brash, outspoken, and convincing pushes society evermore towards the Extrovert Ideal. It has become increasingly important in society to have a good personality, to be interesting, a good conversationalist, and the center of attention. What the world seems to have forgotten is the importance of character: there are inner, if less remarkable, traits that go far in leading to success. It's simply a matter of recognizing these qualities and reminding others of the important role that the introvert plays. There is great value in refraining from labeling introverted individuals as shy as well as learning to recognize the unique talents and abilities they possess. Introverts operate differently than extroverts, but there is nothing awry in this; it is simply their nature. No one deserves to be looked down on because they don't speak up as much as others. It is highly important that society learns to recognize the introvert advantage rather than focus solely on the extrovert ideal.

Had my classmates in fifth grade understood anything about introverts—or tact, for that matter—I believe things would have turned out differently for me. Thankfully, I have gained confidence and self-assurance over the years and now respect myself for the introvert that I am. However, I could have saved myself from quite a bit of self-degradation and lack of confidence had I focused less on

the negative label I had received and more on the qualities I had to offer. Not only are introverts focused, observant, careful, smart, and devoted, we are, in our own way, powerful. But please don't make us say that out loud. ❑

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Social Trust: A Touchy Subject

Todd Partridge

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The other day, I hopped onto a bus that was just crowded enough that as the bus made its way down the road, a bump caused a girl to slightly graze my arm with her sleeve, after which she immediately said, *"Sorry!"*

This really struck me. In an environment where bumping into one another is likely and even expected, this girl made such little contact I might not even have noticed, and yet she felt the need to apologize for unintentionally touching my arm. People today are hyper-aware of when they are touched or when they touch someone else, and with any accidental brush comes immediate apology, or at least an awkward look that communicates, "I didn't mean anything by that."

My experience on the bus is typical of many in American society. We are not a culture of touch. Sidney Jourard, a pioneering psychologist in touch studies, highlights how various cultures communicate through touch. In one study, he traveled across the globe observing conversations of two friends in different countries as they went to lunch. In most countries, he observed that friends made contact with each other an average of 90 times per hour, with France averaging 110, and Puerto Ricans exhibiting up to 180 times per hour. However, in America Jourard observed a mere 2 points of contact per hour—usually in bursts of enthusiasm—trumped only by England with a stunning zero (Jourard). This does not insinuate that Americans and Brits have lost their capacity to feel, as research has confirmed that certain climates can contribute to this mindset, such as colder climates or urban areas (Chillot, Zur).

While these environmental factors might be partially to blame for Americans' "touch avoidant" attitudes, Caroline Johansson's study in *Current Psychology* reveals that many don't touch simply because they don't know how, never having been taught by their parents. She explains that a major factor of their avoidance behavior was a perception that they lacked the skill or knowledge necessary to touch others appropriately. Johansson reports,

> It appeared that their inability derived from childhood.... This inability concerned both not knowing how to touch practically (that is how to put one's arms around another person or how to carry a

> newborn baby) and not knowing when and what kind of touch to give to whom (for example, shake hands). (51)

As making contact demonstrates vulnerability and a desire for deeper connection, the fear of exclusion can be paralyzing for those who are insecure in those abilities (Johansson 53).

Americans lose a staggering number of social and personal benefits by avoiding touch. The most overwhelmingly proven benefit from physical touch is its ability to create and deepen lasting personal relationships between humans. In a study led by Daniel Nicholls at the University of Canberra, Australia, researchers sought to learn what affect compassionate physical touch had on dementia patients. Families and caregivers of these patients reported feeling more hope in their patient's progress and satisfaction in their relationship when they made physical connection a regular part of their visits. In contrast, those who made little to no physical contact over time felt feelings of helplessness and despair when asked about the patient's improvement (576). Philip Shaver and Cindy Hazan, psychologists in the field of intimacy and relationships, found that not only did couples who touched each other openly and frequently demonstrate a greater ability to accept and support their companion in view of faults than those who did not touch often, but the longevity of those individuals' other close relationships tended to average *twice* as long as those who avoided touch (Hazan 515). Additional research on the subject by Johansson revealed that "touchy" and "non-touchy" people alike

consider physical intimacy to be an essential part of their marriage relationship (50).

While touch significantly improves relationships, studies have also established that expression of sympathy through physical contact is crucial for proper growth and evolution of a species. Charles Darwin's well-known "survival of the fittest" theory of biological evolution would seem to contradict this, except this was a title coined, not by Darwin but by Herbert Spencer, to justify a desired recognition of class superiority. In a comprehensive view of Darwin's writings together, his feelings about his own race can be more accurately described as "survival of the kindest" (Keltner, "Darwin's Touch"). Darwin observed across mammalian races that sympathy is expressed through tactile communication, and this expression is a key influence in a female's choice to mate with a male of her species (Darwin).

To further explore the necessity of compassionate somatic expression among mammals, Darlene Francis and Michael Meaney at the Developmental Neuroendocrinology Laboratory at McGill University studied the maternal behavior of rats to lick and groom their pups. Environments filled with compassionate touch fostered rats that were better equipped to survive and reproduce successfully. Mature rats raised in high-contact settings also showed lower stress levels when restrained, explored newer surroundings more confidently, and had more effective immune systems (Champagne). These findings only confirm Darwin's hypothesis that sympathetic contact is a hardwired component in

furthering the evolution of a species, demonstrating what many Americans are missing through minimal physical contact.

Recognizing that tactile communication is a basic part of the human experience and even survival, the questions arise: why are Americans so hesitant to touch each other? Is it simply the weather, or the way children are raised? While these are certainly contributing factors, the answer seems to lie in Americans' ability to *trust* each other.

A recent Associated Press poll discovered that a mere third of Americans feel like they know and interact with people they can trust (Cass). Intrigued by this statistic, a journalist for the *Chicago Tribune* asked the director of the General Social Survey what this drop-in trust might be attributed to. "Society has become less close in terms of interpersonal contact," he said.

> People have a lot less close, personal ties. If you have those ties, you tend to trust people. If you don't, you become more skeptical because you don't know most of the people you come into contact with. (Huppke)

Trust seems to be key in identifying and solving Americans' touch avoidant attitudes.

If becoming "less close," as the director of the General Social Survey puts it, is the cause of society's deterioration of trust, social networking devices are one of the main culprits of the problem. A study by Andrew Przybylski and Netta Weinstein at the University of Essex revealed that—because of the wide and current preoccupation in the

population's mind with instantly connecting to virtually anyone in the world at any moment (Przybylski 237)—people who

> engaged in personal discussions when a cell phone was nearby, even if neither was actually using it, reported lower relationship quality and less trust for their partner. They also felt their partner was less empathetic to their concerns. (Kerner)

The ever-present smartphone's ability to connect a person to the World-Wide Web at a moment's notice is not the only way it has crippled the everyday American's ability to trust his cohorts. Americans ages 18–29 communicate using an average of 88 texts per day (in comparison to the only 48 points of physical contact a day [Jourard]). In a *TIME Magazine* poll in 2012, 32 percent of people preferred communication via text, even with close friends. This is most concerning for young people because their communication abilities have not totally developed. Due to the buzzing phones in their pockets, they have limited experiences that cause those areas of the brain to mature (Kluger). Sherry Turkle, founder of the MIT Initiative on Technology and Self, noted the texted apology as a clear example of how much we lose when we use text rather than voice, explaining that

> a full-scale apology means I know I've hurt you, I get to see that in your eyes. You get to see that I'm uncomfortable, and with that, the compassion response kicks in. There are many steps, and they're all bypassed when we text. (Turkle)

But Dacher Keltner, Ph.D., founder of the Greater Good Science Center, discovered that even a vocal reconciliation can fall short; compassion is interpreted through physical touch with a greater accuracy rate than verbal or written communication across the board (Keltner, "Hands On").

However, these alarming statistics do not necessitate online interaction's abolishment. We have experienced the exciting capability to be transported to a different world, and to experience cultures and ideas that were never available to our ancestors (Price). We can share our experiences and memories with family and friends instantly, across the world (White). The resources available to raise a thousand-member protest in a day have never been closer to our fingertips (Couts). The explosion of social media has helped us renew our understanding of the power of the "social" (Keller and Fay).

However, it has also instilled a habit of immediate escape from awkward situations, which shelters us from the personal growth that buds from confronting difficult subjects (Price). Internet communications cause our first impressions of people and situations to be cold, less important, or insincere (Bradt). It causes constant distraction overload, continuous partial attention, and lack of awareness of our physical surroundings (Rader 44). Social media have brought out the most bigoted, insensitive sides of a great majority of people and caused many to prefer a screen and a keyboard over faces, handshakes, and speech (Fowlkes, White). As Americans grow accustomed to communication via text and tweet, they learn to not fully trust their interpretation of those

communications. This fosters distrust throughout society that is powerful and habitual. Reliance on social media degrades social trust (Keller and Fay).

Some argue that internet avenues are a necessity for creating lasting change in today's age (Aguirre, Hannegan, and Neilson), but many attribute many social movements' successes to the Web that were actually influenced very little by it. When 10,000 protestors swarmed the streets of Moldova in Iran to stand against their communist government, many called it the "Twitter Revolution," expressing that the people of Iran would never have had the confidence to stand together for freedom without Twitter (Gladwell). Closer investigation, however, reveals almost *all* tweets about the demonstration occurred in the West, since few Twitter accounts are actually held by Iranians ("An Exhaustive Study"). As expert social site designer Seymour Chwast said, "social media can't provide what social change has always required" (Gladwell).

Americans' social suffocation by technology is analogous to the plight of ducks found in metropolitan areas. Many families have participated at some point in feeding bread to the ducks in a nearby pond or lake. Most are unaware that because it carries almost no nutritional value for the birds, this can lead to malnourishment and extreme weight gain. In small amounts, it is not harmful, but this is too difficult to moderate as so many families routinely feed ducks. According to bird expert Melissa Mayntz, this practice often leads to overcrowding, greater pollution, diseases, and a loss of the inborn instinct to find natural sources of food. When wild ducks discover a

constant supply of free bread, they effectually kill themselves off (Mayntz).

Social media have become the human race's plentiful outpouring of free bread, full of carbohydrates with little nutritional value, which we use, attempting to satiate our hunger, for connection (White). It is a synthetic replacement for the real, lasting connection that comes from a kiss, a touch, or a shared glance. As we make a conscious effort to rely less on digital interaction and more on our analog experience, we will give precedence to the people we are with over people who are elsewhere (Price), gain a greater feeling of being worthy of love and belonging (Brown, Brené), find a boost in self-esteem and control over our work environments (Rader 45), and wield more power in our words as we strive to promote real change in our public policies and cultural behaviors (Keller and Fay).

Relying less heavily on social media takes discipline. This is an addictive aspect of the American life, making it a painful habit to break (Rader 45). **First**, we can make a habit of posting only the simpler, public parts of our lives for the world to see, decreasing our likelihood to use the internet in search of deeper connection. **Second**, we can create "sacred spaces" around certain activities where no technology is allowed, such as at mealtime, while playing with children, or chatting with friends (Price). **Third**, we can create friendly competitions to see who can go longest without checking their phones during a get-together (Fowlkes). But, just as the bread-fed duckling starves to death when bread can no longer be found, so may our own social lives perish if we shun Facebook without replacing it

with something new—or in this case, something forgotten. The second step to restoring Americans' willingness to trust is to bravely experience the vulnerable world of physical interaction (Bradt).

An effort to begin touching friends and acquaintances can seem awkward in a society where passersby instantly apologize for grazing arms on the sidewalk or bumping hips on a crammed bus seat. It is not nearly as awkward as we imagine (Spechler). A fear of physical touch can easily be unlearned (Greene). **First**, we should make contact when we greet someone. A hug, a high-five, a touch from behind, or a squeeze of the arm are all initial contact behaviors that communicate *"I accept you," "I care about you," and "I am invested in you."* This causes the friend to be more comfortable around us (Nicholls 576) and sends endorphins through both bodies that make participants happier to see one another (Spechler). **Second**, we should touch a friend when asking a question. A hand on the shoulder, a pat on the knee, or a touch on their side are all appropriate question-asking gestures. This is a little less natural, but reaps a willingness to serve (Nicholls 576), a feeling that the question is important (Darwin), and increased eye contact ("Oxytocin"). **Third**, we should make a physical connection when we apologize or show sympathy (Spechler). An arm around the shoulder, a squeeze to the wrist, or a grab of the hand effectively communicates a compassion that is instinctively trusted (Keltner, "Darwin's Touch").

When a friend has some new object we want to learn more about, we ask, *"Hey, can I see that?"* What we are

really asking, however, is that they hand it to us. Evidently, in our minds, we have not truly seen something until we have touched it (Bradt). In the same way, we cannot fully *see* our friends through a computer screen. Our firewalls not only shield us from viruses and pop-ups, they shield us from the people we love (White). When we rely on social media, human vulnerability is lost. As Brené Brown, a leader in the field of sociology, said, "I'm just so grateful, because to feel this vulnerable means I'm alive" (Brown). As we turn from the ever-tempting shower of "bread" and practice behaviors that provide the real nutrients of connection, we will find healthier and longer-lasting relationships that will bring greater fulfillment and personal confidence (Greene, Rader 45). The stars on our spangled banner may be scattering, but we can reconnect them still simply by using the reliable, effective, and personal means we have had at our fingertips since our birth: *our fingertips*. ❑

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Social Media Addiction: How It's Leading to a Decline in Mental Health

Katie Funk

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When waiting in line at a coffee shop, what do people turn to, to feel more comfortable? When a student needs a break from homework and they grab their phone, what app do they usually open? What is the first thing a person checks on their phone in the morning and the last thing they check before they go to sleep? For many people, the answers to all of these questions is Facebook, Instagram, Snapchat, TikTok, or other social media platforms. The answers to these questions all match up because of one thing: social media addiction. As defined by addictioncenter.com, the term, "social media addiction" is

> [a] behavioral addiction that is defined by being overly concerned about social media, driven by an

> uncontrollable urge to log on to or use social media, and devoting so much time and effort to social media that it impairs other important life areas. (Hilliard)

Not only does this addiction affect the user behaviorally, but also mentally. Two researchers on this subject, Nazir Hawi and Maya Samaha, explained that numerous studies have shown that social media addictions and addictions to technology in general have an association with increased stress, anxiety, and depression, and a decline in academic performance (Hawi and Samaha 578). Social media addiction has many negative effects on mental health, but through learning, teaching, and understanding how to use social media effectively, this issue can be resolved.

Many would argue that social media is the place where they stay connected with family and friends and create connections with new people. In an article about social media and mental health, Lawrence Robinson and Melinda Smith agree that social media can connect loved ones as well as be a means of networking with new people. They also listed a few more benefits to social media, such as, "An outlet for your creativity… Discover[ing] sources of valuable information and learning… [and] rais[ing] awareness on important issues" (Robinson and Smith). While these are all worthwhile causes and reasons to use social media, the user must be careful not to slip into the detrimental side of social media. Social media, when used incorrectly or too much, can lead to a decline in one's mental health. Robinson and Smith go into detail of what this decline in mental health can look like: "Inadequacy about your life or appearance, Fear of missing out (FOMO),

Isolation, Depression and anxiety, Cyberbullying, [and] Self-Absorption" (Robinson and Smith).

Another author, April Dykman, wrote a detailed article about FOMO (fear of missing out) and how it affects a person's mental health. In this article, she begins by explaining that FOMO has existed as long as people. Humans tend to compare themselves to others and then compete with one another. An example of this that Dykman gave is seeing a neighbor buy a new car and thus, wanting to trade in a perfectly fine car for a new one because of FOMO. Now, this is a pretty simple example that seems to have a small effect on mental health, but when we add social media to the picture, it is a whole different story. Dykman explains, "Now [they're] trying to 'keep up' with everyone [they] ever knew, plus people [they've] never met in person" (Dykman). To keep up with everyone—in person and on social media—is an impossible goal, and it is a never-ending pursuit that becomes exhausting and anxiety-triggering.

Another aspect of social media that can cause a decline of mental health is the isolation that results from using it. To explain this idea further, *ViewPoint Center* states,

> For example, let's say you have a teen who struggles with social interaction and has a tendency to isolate themselves. Instead of going to the school dance, he decides to stay home. Now hand him social media. Research shows that it may cause him to feel even more isolated. ("Social Media")

Isolation and loneliness may already exist in a person's life, but adding social media use into the mix increases those feelings of isolation even more. *ViewPoint Center* backs up this point by saying, "A new study by the University of Pittsburgh in Pennsylvania found that teens who use social media heavily are 3 times as likely to feel socially isolated" ("Social Media"). Isolation and feelings of loneliness become bigger issues when they are felt more and more often. Epidemiologist Nicole Valtorta states, "Loneliness has been found to raise levels of stress, impede sleep and, in turn, harm the body. Loneliness can also augment depression or anxiety" (qtd. in Novotney). As shown by this research, a dangerous and damaging cycle begins. Social media addiction leads to FOMO and isolation, which in turn leads to increased stress, anxiety, and depression. The positive out of all of this is that not everyone gets caught in this awful cycle. It is mainly those who misuse and are addicted to social media that feel an increase in FOMO, isolation, depression, and anxiety.

To enhance the benefits of social media, the user needs to balance their time between two things: interacting with people on social media and connecting with people face-to-face. In an article about this issue, McLean Hospital discusses how some people use social media to boost their self-esteem rather than connect with others online or in-person. When speaking of this situation, McLean Hospital states, "They're searching for validation on the internet that serves as a replacement for meaningful connection they might otherwise make in real life" ("'Like'"). "Meaningful connection" is vital to a person's mental health. It keeps them in touch with the "real" world and

with their emotions. Although there is a lot of value in the connections that can be kept and created on social media, these connections simply cannot replace the in-person interactions we have every day. A research study shows that "[t]ime spent on social media can displace face-to-face interaction, and cause depression due to lack of social support" (Brunborg and Andreas). If a person allows social media to replace in-person, face-to-face interactions, they are misusing it and not fulfilling the purpose for which social media was created.

In order to combat mental health decline due to social media addiction, we need to teach, learn, and show how to responsibly use social media because social media is not completely detrimental, and it actually has a lot of benefits. However, if a person does not responsibly use social media, they are susceptible to creating bad habits that will greatly affect their mental health. Jenna Hilliard explains this concept well:

> Social media use becomes problematic when someone views social networking sites as an important coping mechanism to relieve stress, loneliness, or depression. For these people, social media use provides continuous rewards that they're not receiving in real life, and end up engaging in the activity more and more. This continuous use eventually leads to multiple interpersonal problems, such as ignoring real life relationships, work or school responsibilities, and physical health, which may then exacerbate an individual's undesirable moods. Consequently, when social network users repeat this cyclical pattern of

> relieving undesirable moods with social media use, the level of psychological dependency on social media increases. (Hilliard)

To avoid and combat this cyclical pattern that Hilliard discussed, McLeanHospital.org gives a suggestion for how to assess social media usage. They first explain that a person should monitor their social media use (time spent on it, what you did when you were on it, etc.) and then find ways to limit or change their use. They pointed out that not only is it important to limit or change the use, but it is also vital to replace that time and energy with a more beneficial activity. They call this "Distract Yourself From the Distraction" ("'Like'"). Doing this personal analysis can further a person's understanding of how to responsibly use social media.

It is worth noting that not only does a person need to learn how to use social media responsibly, but they also need to teach and show others how to do so. This concept is especially important when it comes to parenting. McLean Hospital states, "The way parents are using social media is the model for their kids" ("'Like'"). If a parent is constantly on their phone, their kids will assume that it is okay to always be logged onto technology, ignoring the face-to-face world. On the other hand, if a parent sets down their phone and gives their full, undivided attention to their child, great listening skills, kindness, respect, and more great characteristics can be developed in their children. This is why it is vital to teach and exemplify responsible social media use; it makes such a huge difference in the lives of those who look up to you and watch your every

move. Jacqueline Sperling perfectly sums up this concept: "If you want your children to put their phones down at dinner, that will be more likely to happen if you do the same" ("'Like'").

Lastly, another way to teach, show, and learn how to use social media responsibly is to follow *Help Guide*'s four steps that will "[m]odify social media use to improve mental health" ("Social Media and Mental Health"). The first step is to "Reduce time online." As written in the article, "A 2018 University of Pennsylvania study found that reducing social media use to 30 minutes a day resulted in a significant reduction in levels of anxiety, depression, loneliness, sleep problems, and FOMO" ("Social Media and Mental Health"). 30 minutes a day is a reasonable amount of time to give up and use in a different area of time. *Help Guide* even gives some great suggestions of what you can do to reduce your social media use by 30 minutes: "Turn off your phone at certain times of the day, don't bring your phone or tablet to bed, [and/or] disable social media notifications" ("Social Media and Mental Health"). All of these suggestions are basic, yet they are impactful ways to decrease the amount of time an individual spends on social media. The second step listed by *Help Guide* is to "Change your focus." In this step, they explain that the individual who logs on to social media should have a motivation and a reason to be on there. Whether it is checking in on a family member's life, responding to a message from a friend, or sharing your own photos and experiences, the main thing to make sure of is logging on as an "active user" and doing so intentionally. These first two steps prepare the user well for the third step: "Spend more time with

offline friends." This is a fundamental concept that often gets overlooked, but the fact remains the same: "We all need the face-to-face company of others to be happy and healthy" ("Social Media and Mental Health"). Overusing social media can take up so much of our time, leading to feelings of isolation, loneliness, and a decrease in mental health. Simply using some of the time spent on social media to go out into the world and meet with family, friends, and strangers face-to-face can really change how much social media affects one's mental health. Lastly, *Help Guide*'s final step is to "Express Gratitude." "Feeling and expressing gratitude about the important things in your life can be a welcome relief to the resentment, animosity, and discontent sometimes generated by social media." (Robinson and Smith). These four steps can change addictive and unproductive social media use into connection-creating and responsible social media use.

When waiting in line at a coffee shop, what if a person decided to look up, make eye contact, and speak with the person behind them? What if, instead of checking social media during their break, a student took a walk outside or meditated? What if the first thing a person did in the morning was write down a to-do list for the day and the last thing they did was write down what they are grateful for? Social media addiction is a complex, serious, and sometimes scary issue, yet it can be overcome. All of these scenarios listed are alternatives for mindlessly logging on to social media. Each one is basic, yet when done consistently and intentionally, can make a huge difference in one's mental health. Doing small and important things is how a person overcomes social media addiction. Interact

with others in person, limit time on social media, and understand that one's value is not, and never will be, found on social media. ❑

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Social Media and Why It's More Hurtful Than Helpful…But It Doesn't Have to Be

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Facebook, Twitter, Instagram, Snapchat, TikTok, Pinterest, Reddit, YouTube, and so many other social media have become commonplace for today's youth. In fact, studies show that the average teenager spends more than three hours on social media daily (Metev). The defining quality of Generation Z, also known as Gen Z or the "iGen," is how its members have come of age in world where handheld, portable technology and near-instantaneous access to information are societal norms. The birth years for Gen Z extend from 1997 to 2012. As a member of this generation, I can attest that our world

has undeniably experienced a significant shift in the way we communicate and interact over the last two decades. But is this social media storm a good thing? No, not really. A host of detriments to both mental and even physical health have been linked to social media use, especially among Generation Z. Some examples include anxiety, depression, sleep deprivation, insomnia, and social media addiction. Additionally, social media has created a global platform for cyberbullying, or the use of online communication to bully another, and it is a growing problem amongst today's youth. Furthermore, social media has damaged our youth socially as well with decreased average attention spans and interpersonal communication skills. Finally, what is especially devastating is that the teenage demographic has also seen large spikes in feelings of isolation and death from suicide in the last 20 years. While social media was originally intended to benefit society, it has recently become evident that the true effects have generally been unhealthy and damaging, especially with the youngest generation of youth.

Because social media has had so many harmful effects on Gen Z, it is clear that there is a strong necessity for change. The way we use social media needs to shift entirely if we are to progress forward rather than backwards as a society. Social media should be used as a tool, not a time-waster. The iGen should learn to use social media sparingly and for the correct purposes. The best reasons for using social media should be to connect with friends and loved ones with whom there is limited opportunity for in-person contact and to spread positive messages across the

worldwide web. However, the social media of today focuses far more on appearances and fleeting entertainment. If we were to adapt this new perspective towards social media, we would dramatically decrease the severity of the never-ending list of negative consequences social media has brought down upon the mental health of the world's youth.

One of the largest reasons why social media has become such a strong influence in our everyday lives is its inherent addictiveness. Every day, more and more people find themselves absorbed more in a virtual reality than actual reality. The American Psychiatric Association defines an addiction as "a brain disorder characterized by compulsive engagement in rewarding stimuli despite adverse consequences" ("What is Addiction?"). By that definition, anyone who compulsively engages in wasteful behavior in order to receive a rewarding mental stimulus is addicted. That description comfortably fits a large percentage of today's youth. In fact, research suggests that social media addicts undergo nearly all the same symptoms as those who experience addiction with drugs, alcohol, smoking, or pornography, including mood modification, salience, tolerance, withdrawals, and relapses (Hilliard). The positive feedback experienced in the brain from getting "likes" on a photo or a new Direct Message on Instagram is one that causes the user to continually crave that same feedback.

A recent experiment supports this idea that social media is functionally addictive. Over 200 high school students ranging from ages 14-18 had their phones observed after one month of use and then a data collection

software provided data on how often the phone's user would open social media apps as well as mobile games, surf the internet, and also track general screen time. The criteria for a social media addict was a student that visited multiple social media accounts across various platforms daily for significant periods of time. According to that criteria, about 21.5% of students were diagnosed social media addicts (Savci and Aysan). This percentage of students is astounding, considering that among that demographic, less than 10% have a pornography addiction, only 3% suffer from illicit drug use disorder and 1.8% of adolescents have an alcohol abuse disorder ("Addiction Statistics"). Social media, by this standard, could even be considered to be a new "drug," more pernicious than any that has come before. Excessive use of social media can affect an individual mentally just like a narcotic or alcohol does. For that reason, it is abundantly clear that social media should not be used for long periods of time, nor multiple times per day. By overindulging in social media, addicts incline themselves toward one of the worst of its side effects: depression.

Social media can be traced back to and identified as one of the largest contributing factors leading to depression, especially among teenagers.

> In several recent studies, teenage and young adult users who spend the most time on Instagram, Facebook and other platforms were shown to have a substantially (from 13 to 66 percent) higher rate of reported depression than those who spent the least time. (Miller)

This clearly shows that higher social media use is directly correlated with the symptoms of depression. Some of the potential reasons behind these statistics is that social connections formed via social media are less satisfying to the user and leave them feeling more socially isolated versus in-person interactions. Another theory states that "if you're spending a lot of time on your phone, you have less time for activities that can build confidence, a sense of achievement and connectedness" (Miller). Increased time online leaves less time for teenagers in Generation Z to spend outdoors or with friends. This can in turn cause a decrease in confidence and an increased likelihood of depression. Both of these can bring about negative, long-term ramifications to a teen's mental health. Depression's negative effects can even cause permanent damage to a person's self-esteem or personal image. As such, it is vital that adolescents learn from a young age to avoid spending excessive amounts of time online and on social media. In addition to depression, many social media addicts experience growing anxiety.

Anxiety is a common among teenagers, and excessive social media use only augments that anxiety. The majority of social media platforms work with something called a timeline function that allows the most recent posts to be the first visible on a user's feed. This timeline mechanic can make users feel as if they are never "caught up" because new posts are being uploaded constantly. This continued desire to stay current and up to date is a contributing factor to teen anxiety. What is even more frightening is that social media is often a vice for anxious individuals because it allows them to isolate themselves from the real world

(Reed). Ironically, this psychological yearning for the stimuli that come from social media use can transform itself into future anxiety, causing a never-ending cycle of impulse and desire. In this way, we see that social media can have a strong, and even cyclical effect on our emotional well-being. However, this is not all. These effects extend even further to mental stability and capacity.

Another negative impact of social media on our generation is its tendency to lead to sleep deprivation. Over 60% of teenagers admit to using their phones less than one hour before falling asleep (Miller). Furthermore, teens that do so are also reported to get at least one hour less of sleep than those who do not. Experts say that "blue light from electronic screens interferes with falling asleep; on top of that, checking social media is not necessarily a relaxing or sleep-inducing activity" (Miller). Consequently, social media has a direct correlation to sleep deprivation among heavy users. The ancillary effects of sleep deprivation should also be considered. Students who are sleep deprived have less success in school and bring more stress upon themselves. On the other hand, students who learn that the supposedly pressing matters on their phone can wait until tomorrow, experience greater nightly rest. Altogether, social media in this regard has the potential to not only affect an adolescent's mental health, but their good academic standing and potential future opportunities as well. The entire future of some individuals has even been totally shattered through social media. Cyberbullying is a huge dilemma experienced by Generation Z and its effects can sometimes be lethal.

In 2012, a viral video depicted the horrors of cyberbullying and the negative effects it can have on teenagers. Amanda Todd uploaded a video to YouTube in September of that year titled "My Story: Struggling, Bullying, Suicide, Self-Harm" where she was remained silent, only flipping through notecards that read out the story of her abuse and an online stalker that left her so traumatized that she was considering suicide. Beginning in the seventh grade, Amanda Todd began using video chat to meet new people online. One day she connected with a stranger who aggressively convinced her to flash him via webcam. This stranger then went on to blackmail her, and the picture he took began circulating the web, including a fake Facebook profile where the topless photo was the profile image. Amanda was forced to switch schools, but even still, her stalker would continually make fake profiles to "friend" her. Regrettably, the ending of this story is not a happy one. About one month after uploading her video, Todd died by suicide (Washington Township). The sad truth is that Amanda Todd's story is only one of many which highlight the devastating consequences that can come from cyberbullying. Millions and millions of teens have experienced cyberbullying in one way or another. While not all victims reach the level of mental despair that Todd experienced, mainstream social media has led to countless examples of hurtful communication, inappropriate content being shared, and worst of all, death threats.

Of all the negative aspects of social media, cyberbullying and its inimical effects on adolescents are the most severe and concerning. According to a survey taken

by the Pew Research Center, cyberbullying has affected a staggering 59% of teens. Included in this survey were five types of online abuse, namely: offensive name-calling; spreading of false rumors; receiving explicit images they did not ask for; online stalking; and physical threats (Anderson). Social media has given cyberbullies a platform to mock and abuse peers from behind a virtual mask. This anonymity and avoidance of direct confrontation make cyberbullies so much more likely to attack others online, especially teenagers. The most interesting statistic from this survey, however, was when the subjects were asked how well they think parents, law enforcement, teachers, bystanders, politicians, and yes, social media companies did to address this issue. The approval rate for parents intently trying to help teens with cyberbullying was nearly 60% while that of social media companies was nearly half at 33% (Anderson). In other words, over two-thirds of adolescents feel that social media sites are not doing enough to help prevent the issue.

There have even been instances in which employees from social media companies themselves admit that its contribution to society is more negative than positive. Chamath Palihapitiya, former vice-president for user growth at Facebook, is quoted as saying, "The short-term, dopamine-driven feedback loops that we have created are destroying how society works. No civil discourse, no cooperation, misinformation, mistruth" (Wong). Palihapitiya later explains that social media has the potential to do so much more than is let on. Social media can, and has, used private data to target certain advertisements towards the user. He later added that "this

is a global problem. It is eroding the core foundations of how people behave by and between each other" (Wong). This illustrates the idea that social media is also causing us, said human beings, to have reduced social skills, including difficulty communicating with others. No other generation has more to lose from this than Gen Z. The teens and young adults of today will determine what the future will look like twenty years from now. Social media is causing our beloved generation to drown in a sea of misinformation and to become unable to discern fact from fiction. We must learn to avoid the automatic acceptance of whatever the media (especially social media) expresses as the truth and learn to conduct proper, personal research. Only then can we become better educated and avoid the dangers of misperception.

Social awkwardness and miscommunication are issues that are also increasingly frequent among Gen Z. The increased use of social media and technological communication has caused youth to lose valuable social skills and to have a harder time interacting with other people. Collectively, experts have determined that social media among teenage students has led to reduced learning and research ability because students are more inclined to simply look up answers. Furthermore, students have shown steadily decreasing language use and creative writing skills due to the higher acceptability of poor grammar on social media sites (Akram). Even more is that students nowadays are choosing to interact less and less in-person and more through social media and technology. This problem has only increased since the onset of the recent COVID-19 pandemic and the government orders to

social distance and self-isolate. This separation from the real world can lead to serious problems for today's youth in regard to their social well-being.

Some argue that all of these negative effects from social media are of our own doing, and that social media is not at fault. It is true that we humans possess the ability to make our own choices and that nobody forces anyone to engage in social media, but it is also true that people who do not engage in social media are often seen as social outcasts, especially among teens. In addition, we live in a world where social media use is encouraged and today's youth are impressionable, as teenagers tend to be. Once someone begins to engage in social media, it is essentially impossible to control what is seen on the screen. Participants are subjected to warped views and attitudes, including arbitrary beauty standards or lifestyles (Kern). To expect a teenager to abstain from social media is well outside societal norms and is largely unrealistic. As such, social media is the tinder that has ignited the flames of addiction, unattainable expectations, and a crippling dependency on external validation.

Another claim in social media's defense is that it has so many positives to it. A primary example is that it allows individuals, like distant family members, to connect instantly. Another is that it increases global connectivity and allows youth access to a more diverse world outside their own personal bubble of family and friends. Additionally, it provides more instant help for those in need, contains many positive and uplifting online communities, and includes updates that help keep us more

in touch with our work or schoolwork, etc. (Akram). The fact of the matter is that these claims are not misplaced. It is abundantly clear that social media does have positive aspects. Nevertheless, social media in its entirety has brought about more harm than good. While the core idea surrounding social media and its values is wholesome and good, its negative effects on the rising Generation Z simply outweigh the benefits. Serious mental health issues like anxiety and depression are far too severe to be outweighed by any temporary entertainment. Suicide and self-harm are concerns of far greater importance than Instagram likes or comments. Social media has ever so slowly altered our way of society, and because the transition was slow enough, it has been difficult for adults and parents to see the kinds of significant consequences it has had on the younger generation.

Overall, it is unrealistic to expect social media to disappear. The reality of the matter is that social media is already fully ingrained into our society and it is not likely that will change in the next few decades. Social media can even be argued as a part of ourselves. That said, the real solution is not to avoid social media completely. Instead, it is up to us as consumers to make conscious decisions as to how often we use social media and for what purpose. Social media, after all, is a tool. Like any other it can be used as an instrument for good or as a weapon of evil. We can use social media to amplify one's ability to share an uplifting message or expand the scope of their character assaults. Social media should be used sparingly, not excessively. It should be used to seek connections, not validation. It should be a way to communicate, not to attack others. We

should try to go on "social media fasts" where we avoid social media for a week or even just a day. If we were to use social media in this way, we could create a much cleaner online environment that will protect everyone emotionally, not just Generation Z. We can dramatically decrease the mental health issues that social media has caused in recent years. By doing so, we will allow ourselves to more fully enjoy the beautiful world outside our screens and embrace the best that both the physical and digital world have to offer. ❑

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The Battle for Mauna Kea

Pono Suganuma

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With an uninterrupted view of the clouds floating above the volcanic land and deep blue Pacific Ocean, the mountain stands firm. Its name is Mauna Kea, which means white mountain. Native Hawaiians gave the dormant volcano its descriptive name for the beauty found in its snow-capped peaks. Reaching high above the Big Island of Hawai'i, Mauna Kea stands at an astonishing 33,500 feet tall when measured from its base in the ocean depths to its tallest peak. This measurement from base to peak makes Mauna Kea the tallest mountain in the world.

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33,500 feet tall when measured from its base in the ocean depths to its tallest peak. This measurement from base to peak makes Mauna Kea the tallest mountain in the world.

To understand the battle for the mountain, one must understand two main ideas that encompass Mauna Kea. The first is that Mauna Kea is the premier site in the world to study astronomy. The second is that Mauna Kea is an extremely sacred and cultural site for native Hawaiians. Why is Mauna Kea so valuable to these two groups of people? Furthermore, why is there an ongoing battle between these two groups for the rights to Mauna Kea?

Many factors contribute to Mauna Kea's distinction as such an ideal location for astronomical research. The mountain's high elevation raises the telescopes' views above the murky clouds, giving researchers an uninterrupted view of the night sky. The darkness that surrounds Mauna Kea's peaks eradicates research complications brought on by light pollution. Furthermore, the mountain's location in the middle of the Pacific Ocean ensures clear weather for nearly 300 days a year. Together, these qualities certify the belief that Mauna Kea is "one of the best places on Earth to study the stars" (Selingo). It is no surprise then that Mauna Kea is already home to thirteen telescopes, located within 11,288 acres of the Mauna Kea Science Reserve, which is managed by the University of Hawai'i (Callis). These telescopes contributed to the work of local and international astronomers and resulted in unequalled scientific discovery. If Mauna Kea is so valuable to science, then why is there a debate between culture and science? It would be absurd to think that not

everyone prioritizes academic idealism above cultural importance. Astronomers assert the faulty belief that "all people share astronomy's noble quest—to discover our origins and place in the universe" (Ciotti 154).

While native Hawaiians may share astronomy's noble quest in theory, we do not believe that this quest should be finished atop our sacred Mauna Kea. The center or piko of our culture is symbolically represented by Mauna Kea, which serves as "the umbilical cord connecting earth and sky" (Ciotti 148). Our beginnings and creation, or the birth of the Hawaiian Islands and the native Hawaiian people, is centered around the mountain. The mountain is the altar of Wākea, who is "the celestial father [and] sire of the indigenous Hawaiian race" (Ciotti 148). Mauna Kea protects the sacred burial grounds of some of the most powerful chiefs in Hawaiian history. Scattered along the mountainside are 250 burial sites and altars, which have been discovered and deemed culturally significant by professional archaeologists (Ciotti 156). The sacredness of the mountain was so highly respected by the native Hawaiian people that only the most powerful and revered chiefs were allowed to ascend its summit (Kaplan). As the source of our genealogical story, Mauna Kea is undoubtedly a highly sacred place. So why is there a debate for science's involvement on the mountain? Clearly, these astronomers, like "all people are mindful of [our] traditions – to preserve our origins and genealogical connections with the sky" (Ciotti 155). While a good portion of astronomers believe in Mauna Kea's sacredness and treat the mountain with respect they believe that science comes first. As native Hawaiians, we would be wise to remember that.

So, what does this battle come down to, essentially? It is a battle between culture and science. Why has this battle reawakened, and why are these two groups fighting today? In 2009 the proposal for the construction of a new telescope called the Thirty Meter Telescope (TMT) arose. This "next generation optical/infrared observatory" would be able to see thirteen billion light years away and 100 times farther than any other telescope in the world (Callis). Astronomers believe that this $1.4 billion project will enable them to "find planets that can sustain life forms and allow them to peer farther back into the history of the universe" (Terrell). With nine times the light gathering capacity of any other telescope, TMT would rise 18 stories (180 feet) above the summit and encompass 57,000 square feet. TMT would be operated by the TMT Observatory Corporation, which is based in Pasadena, California. Though construction has halted, it is expected to be completed in 2022, and the observatory would see its first light in 2024. The proposed construction of TMT is the spark that lit the fire for the battle for Mauna Kea. This battle between culture and science has astronomers debating against protestors, or protectors, as they liked to be called, of the mountain. It has left the residents of Hawai'i in the middle. I argue that the residents of Hawai'i should not support the construction of TMT on Mauna Kea because the benefits brought by the project do not outweigh the costs to our cultural heritage.

One must understand the benefits of TMT, in order to understand why they aren't worth the costs TMT would have on our cultural heritage. I will not conceal that TMT could bring highly valuable benefits to Hawai'i's economy

and education system. TMT's primary form of contribution to the economy comes from the lease it will pay to the State of Hawai'i for the land and its operation. Currently, TMT pays $300,000 a year for the space, and once it's in operation, TMT will pay $1.08 million a year. These funds will be distributed between the Office of Mauna Kea Management (80%) and the Office of Hawaiian Affairs (20%) (Callis). The TMT Observatory Corporation will also create a THINK Fund, which will provide $1 million in scholarships every year to local Big Island students. The Hawai'i Community Foundation will receive $750,000 a year for scholarships, while the Pauahi Foundation will receive $250,000 a year for scholarships (Callis). Furthermore, the current telescopes pump around $142 million into Hawai'i's economy every year, and TMT is anticipated to do the same. Other economic benefits brought by TMT include the creation of 130 permanent jobs in science and technology and an increase in tourism to the mountain. Astronomers from around the world will travel to Mauna Kea because TMT is backed by universities and astronomy institutions in countries like the United States, Canada, China, India, and Japan. This international tourism and support stems from the excitement and expectation that TMT will contribute to great astronomical discoveries. The observatory would broaden and heighten the level of research that the astronomers could conduct. In December of 2014, using current Mauna Kea telescopes, R. Brent Tully (University of Hawai'i) and Helene Courtois (University of Lyon) discovered that our galaxy resides on the edge of a supercluster galaxy, which they named Laniakea, meaning "immeasurable heaven." The Mauna

Kea Science Reserve telescopes "have made some of the most important recent discoveries in astronomy, such as planets orbiting other stars and distant supernovae, which surprised scientists" (Selingo). These various discoveries of these heavens would not have been accomplished if it hadn't been through the work of these astronomers and the operation of the existing Mauna Kea telescopes. Astronomers argue that if these telescopes could discover things like Laniakea, imagine what TMT could do. All of these powerful benefits substantiate the argument for TMT's construction.

If the benefits of TMT are so great, then some may ask why native Hawaiians are wasting and throwing away the opportunity for its development? They also say that it is difficult to see the point in fighting this battle, when thirteen large telescopes already reside on the mountain. After I presented this paper at the Citizen Scholar Conference at Utah State University, an audience member asked me, "If you already lost thirteen times in trying to protect the mountain, why do you think you're going to win this time? Why does it matter?" His question brought up a strong, accurate, and harsh point that the land has already been desecrated and our cultural identity affected thirteen times. In my response, I echoed the words of Richard Naiwieha Wurdeman when he addressed Hawai'i's Supreme Court in 2015: "Mauna Kea is more than a mountain [and] it is the embodiment of the Hawaiian people" (qtd. in Bussewitz). This embodiment refers to the ideology that Mauna Kea is at the very center of native Hawaiian culture. The mountain is forever linked to native Hawaiian's sense of self and identity. Some people believe

that this cultural significance is just rubbish that impedes scientific discovery. George Johnson of The New York Times referred to the native Hawaiian protectors of Mauna Kea as "religious fundamentalists," who are causing "a turn back to the dark ages" (Johnson). He argues that this battle is more political than religious, a result of native Hawaiian hostility against the U.S. government.

This hostility stems from the many terrible atrocities the U.S. government has committed against the *kānaka maoli* (the Hawaiian people) and our *'āina* (land). So much land was lost when Hawai'i was overthrown illegally by American troops in 1893 and when the crown lands were annexed to the U.S. in 1898. However, many native Hawaiians still believe that Mauna Kea is our land. This belief is especially strong because the science reserve that encompasses Mauna Kea "is among 1.8 million acres that belonged to Hawai'i's queen before the United States deposed the monarchy in 1893" (Selingo). Joseph E. Ciotti, an astronomy professor and director of the Center for Aerospace Education at the University of Hawai'i, argues that "the battle over telescopes has become a chance to reclaim, symbolically and practically, ground that their people [native Hawaiian people] lost long ago" (Ciotti 153). I affirm that Mauna Kea is not just any piece of land, and it is not just any mountain. According to Lanakila Mangauil, a main leader for the Ku Ki'ai Mauna (Guardians of the Mountain) movement and protector of the mountain, Mauna Kea watches over all of us and gives us life (Witze 25). This belief that Mauna Kea symbolically gives life supports the protectors' commitment to the mountain. If TMT was constructed, it would result in the further

desecration of sacred land and dispossession of cultural identity and heritage.

Ultimately, I believe that culture and science simply cannot coexist in this place. The proposed construction of TMT is not the first, nor will it be the last, instance of conflict between culture and science. According to a report by Tom Callis of the Hawai'i Tribune Herald, science reserves have taken over and now own over 263 historic sites, including 141 ancient shrines (Callis). If we do not band together to protect what is sacred to us, Mauna Kea could easily become the site of another long-lost battle for culture against science.

I think it is crucial to note that there are native Hawaiians on both sides of the TMT battle. Future astronomer-in-the-making and native Hawaiian, Mailani Neal, a graduate of Hawai'i Preparatory Academy, has risen to the forefront of the Mauna Kea debate with her petition in favor of TMT. On May 3, 2015 Neal presented her petition, which garnered over 6,300 signatures, to the governor's chief of staff, Mr. Mike McCartney. When asked why she supports TMT in a personal interview, she said,

> [Because of] the strong astronomical aspects of Hawaiian culture, ʻimi ʻike (knowledge), and that TMT is an opportunity to work with a very understanding telescope organization that could help raise the Hawaiian culture in a way that we can share it to the world. (Neal)

Though the construction of TMT is not generally supported by the Hawaiian community, one must realize the very

definition of what is sacred and what is Hawaiian is unique for every person. "I'ʻve had the chance to meet astronomers from around the world. They hold Mauna Kea in their utmost respect, reverence, and believe it sacred for their reasons too," Neal said. If we are to understand why the astronomers have been so tireless in their pursuit of the mountain, we must understand why Mauna Kea is so sacred to them. These astronomers, like us, are protecting and hoping to invest in something they hold in high regard. To them, Mauna Kea is "a jewel…[and is] probably the best site in the world" for astronomy (Ciotti 150). By constructing TMT, the astronomers and Neal believe that they will discover things about our universe and sky that match the discoveries our ancestors made in their voyaging explorations of Polynesia.

A major proponent of astronomy and a native Hawaiian activist, Kealoha Piscotta understands both sides of the TMT battle since she has been involved with Mauna Kea's telescopes and cultural management. While working as a telescope technician, she also led a group focused on the cultural heritage of the mountain called Mauna Kea Anaina Hou. Along with this group, Piscotta maintained a family shrine near Mauna Kea's summit. Her dual appreciation for the mountain's sacredness and scientific value has started to dim with the debate over TMT. She believes that Mauna Kea's natural beauty and spiritual significance will be destroyed if TMT is constructed. Piscotta said, "I have always supported astronomy. However, I do not believe it is of so much importance that it should be allowed to overtake and destroy everything else in its wake" (Kaplan). Residents of Hawai'i are having to

make this same decision as Piscotta and discover what side of the battle they truly identify with.

As the residents of Hawai'i, we must each make our own informed and independent decisions about what we believe is right for Mauna Kea. How can we do that? I urge the residents of Hawai'i to look to their ancestors for guidance. As native Hawaiians, we are the descendants of amazing astronomers who relied on the stars and sky to cross the Pacific Ocean. Our culture is steeped in natural knowledge and our ancestors studied the stars "to guide them and give them a greater understanding of the universe that surrounded them" (Johnson). I am proud that our ancestors did not need technology to acquire this knowledge. However, astronomers today utilize technology like TMT to elevate and broaden their horizon for academic discovery. I confirm that the advancement of astronomy is crucial, but I do not believe that Mauna Kea is the right location to do so. The protests lead by protectors of Mauna Kea have caused TMT officials to investigate alternative locations like the Canary Islands, Chile, or India for its construction (Epping). I think that this is a logical move on behalf of the TMT officials because the battle has reached a kind of stalemate. Therefore, I urge the residents of Hawai'i to do your own research and discover your belief surrounding the battle for Mauna Kea. Lastly, I leave you with my opinion. I honestly believe that the construction of TMT will further our knowledge of the universe. But, it will also destroy our relationship with the 'āina and sever our connection to a place that is so central to our cultural identity. We must protect our land, we must foster a deep connection and aloha (love) for the 'āina, and we must

never forget the 'ōlelo noeau (Hawaiian proverb) about our relationship with the land.

He ali'i ka 'āina; he kauwā ke kanaka.

The land is the chief; man is its servant.

I urge you to be servants of the land, to protect what is most important to you, and to protect Mauna Kea. ❑

On October 30, 2018, Hawai'i's Supreme Court ruled to uphold the construction of TMT on Mauna Kea. This ruling came two years after Suganuma composed this essay in favor of blocking its construction.

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Intergenerational Programs: A Call for Increased Interaction Between the Young and Old

Emilee Hamilton

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Picture a cute old lady with permed white hair sitting in a wheel chair: this is Margaret. Margaret is an 82-year-old widow living in a retirement center. Her family lives far away, and she doesn't get visitors often; she finds herself very lonely. Now picture a petite teenage girl with long blonde hair and blue eyes: this is Madison. Madison is a 17-year-old whose father recently died from an unexpected heart attack, and she is having a hard time with it. She finds she often feels lonely and empty inside. However, Madison and Margaret decided to join an

intergenerational program I created in 2011 called Utah YOUth Connect. They now spend time together through fun monthly activities and have found that they are no longer lonely. While Madison and Margaret's enormous age gap makes them unlikely friends, their common desire for connection bridges their differences.

Loneliness, or social disconnect, like Margaret and Madison experienced, is far more than an emotional problem. Researchers found social disconnect threatens mortality more than obesity and physical inactivity. The study also revealed the combination of social isolation and loneliness is as dangerous to our health as smoking 15 cigarettes a day and being an alcoholic (Holt-Lundstad, et. al). So, how can we help slow the debilitation of millions of isolated seniors like Margaret who live in America's nursing and assisted living homes? I believe there is a feasible, effective way to improve the quality of life for these isolated residents by integrating them with school-aged youth like Madison in fun activities to benefit both parties. By bridging this generational gap, such integration will ease the social disconnection of both groups and provide a plethora of benefits through increased education and overall health.

The Problem

According to the Center for Disease Control and Prevention, as of 2014, 1.4 million elderly residents lived in nursing homes, assisted living centers, or retirement homes (Centers for Disease Control and Prevention). Astonishingly, a full 85% of these residents report never

having visitors (Williams). Although the facility directors and workers doubtlessly try their best to help ease a resident's loneliness, nothing can substitute for having someone, who isn't paid to do so, show they care. Researchers say these seniors' social disconnection puts them at greater risk for cognitive decline (James et al.); this risk increases their chance of developing clinical dementia by 64% (Holwerda et al.). Additionally, studies show loneliness doubles the chance of sickness or death in seniors, increasing the likeliness of colds, heart attacks, strokes, cancer, and depression (Power et al.). Social disconnect is more than an emotional problem, and it affects more than the elderly.

Youth also suffer from loneliness in greater numbers than before. Tim Smith, BYU researcher and co-author of a recent study on the effects of loneliness, said the association between loneliness and risk for mortality is actually greater among younger populations than it is for older people. He went on to say, "Although older people are more likely to be lonely and face a higher mortality risk, loneliness and social isolation better predict premature death among [younger populations]" (Hadfield). This social isolation is real and affects more than a quarter of Americans (McPherson et al.).

However, premature death isn't the only problem facing lonely, disconnected youth. This loneliness and social disconnect may well be the root, if not a contributor of many youth problems today. Scholar Vicki Rosebrook conducted a study and discusses how these feelings of disconnect have arisen. She claims that America has

become separated by age in the last 40 years and argues that we no longer interact with those of different ages. Traditional family tasks that once brought generations together, such as caring for the elderly or raising kids, are now hired out, leaving our society feeling disconnected, empty, and meaningless. This loneliness and social disconnect contributes to many youth problems today including alcoholism, drug abuse, teen pregnancy, youth suicide, and violence. We could prevent or lessen these risks if we treat our generational disconnect as the root of these problems (Rosebrook, "Shared Sites"), but not treating this disconnect has a price. According to Measure of America, youth disconnection and the problems that come with it have an "astonishingly high cost to taxpayers: $26.8 billion in 2013 alone" (Disconnected Youth).

Instead of treating these interpersonal problems, we employ a superficial means of connection, such as social media, to fill the void. The use of social media has increased for all ages in the past ten years but has especially shot up for youth. Since 2005, the rate of social media use among youth has increased from 12% to almost 90% (Perrin). Although social media helps us to connect with others and temporarily feel less lonely, it is not a permanent solution. Youth spend an average of 7.5 hours on their phones in the form of entertainment every day (Azzam). While youth are using these devices, they feel great! As soon as they stop, the hollow void within them returns and the need for deep, meaningful connection remains unfilled. This disconnect can be filled only by meaningful interactions with others in person by returning to the art of talking to others in person, and physically being present in their lives. However, most

adults today are busy working hard. They cannot fill that void for their children, but one group can: the elderly. One of the best ways to fulfill our need for deep social connection, the root of most social problems we face today, is intergenerational interaction.

Intergenerational interactions are defined as, "the purposeful bringing together of different generations [through] ongoing mutually beneficial interactions…" (Rosebrook). Intergenerational programs bring the youth, defined as the ages between 3 and 25, and elderly, ages 65 and up, together to help narrow the generational gap and build the community.

My Story

In 8th grade I was numbered among many of the disconnected and lonely youth in America. I didn't have any friends. I was depressed and lonely, and my self-esteem was very low. However, this experience taught me a lot of empathy for those who were lonely, so that when my mom came to me and told me that there were people in retirement centers that felt the same way, I knew I could make a difference. I started volunteering at local retirement centers and was amazed at how happy the seniors were to have me and how much they looked forward to our visits. As I interacted with my "grandfriends," I not only eased *their* feelings of isolation and loneliness, but I found I was no longer lonely or depressed, and my self-esteem soared. I learned through making a positive difference in someone else's life, I could make a difference in my own. By experiencing firsthand the

positive effects of intergenerational interactions, I developed an overwhelming desire to help other lonely youth make a difference in the lives of these elderly residents who felt so alone.

This led me to begin researching social disconnect and find a way to lessen this devastating loneliness felt by both generations. I discovered bridging the gap between both groups through on-going, fun, intergenerational activities would ease many health issues, and those involved would gain a hands-on education that couldn't be taught in a classroom.

Benefits of Intergenerational Interactions

Intergenerational communities are essential for overall physical well-being of the elderly. The elderly living in intergenerational communities, where they contributed and were also helped, self-reported "feeling better, improved health, and generally more positive outlooks on life" (Power et al.). Power went on to say,

> social connectedness and community involvement are two of the most powerful determinants of our well-being; for older adults, the more they stay connected and involved, the better their overall health. (Power et al.)

Power states stress and other negative emotions are directly tied to the overall physical health of the older generation. Connections to other people have a direct effect on their health. "Social interaction appears to help people

increase their positive emotions and reduce the intensity and duration of negative emotions, which in turn boosts their ability to fight off disease" (Power et al.).

Benefits for the youth involved include: increased self-esteem, they learn valuable social skills, feel loved and needed, and come to learn they can make a positive difference by doing something simple for others. Beyond this, youth benefit from decreased loneliness and more overall satisfaction with life. They practice empathy, gaining an increased understanding for other's feelings, and they are less likely to participate in age-based prejudice or "ageism." Children who have positive relationships with older adults in their childhood are found to have reduced depression, increased self-efficacy, better moderation of stress and psychopathology, and improved psychological well-being; they handle divorces effectively, and get along better with their family. They are also less likely to engage in risky behaviors (Kennison).

By participating in hands-on intergenerational service, youth learn from experiences they can't find in school. They learn life skills through interactions with the elderly such as the ability to express emotion, the ability to work in groups, and manners that "are not only significant for school success, but also assist in life readiness" (Rosebrook, "Shared Sites"). Social-emotional development is also significantly increased for children who participate in intergenerational programs (DeVore et al.). The data of one study indicated that the personal/social skills of preschool children in intergenerational programs were enhanced by 5.84

months compared to children in non-intergenerational programs (Rosebrook, "Shared Sites"). As youth have increased exposure to the elderly, they become less shy, more comfortable around older adults in general, and learn how to be comfortable talking to older people (DeVore et al.). According to the Minneapolis-based Search Institute, a nonprofit organization which aims to promote healthy children, youth, and communities, "Children and teens who volunteer just 1 hour a week are 50% less likely to abuse drugs and alcohol, smoke cigarettes, or engage in harmful behaviors" (Ginsburg).

Another positive educational benefit for both the youth and the elderly is the reduction of ageism, the most common type of prejudice. Ageism, defined as judging someone's character and abilities based on their age, is usually negative. Ageism can be expressed towards both the elderly and the youth. However, studies show that ageism is decreased and combated by positive interactions with the other party (Bousfield and Hutchison). Both the elderly and the youth come to understand and appreciate one another better and release harmful assumptions and stereotypes about the other as they interact.

Utah YOUth Connect

After researching and discovering all of these amazing statistics, I knew I had to do something about it to make these benefits a reality for myself and for my peers. My research helped me find many existing national intergenerational programs, such as Generations United, but for me, I wanted a local program that would positively

affect all school-aged children and retirement centers in my community. This led me to create an intergenerational program called "Utah YOUth Connect" to link approximately 16,000 students in the Cache County School District, with approximately 640 elderly residents in local retirement and assisted living centers through fun, monthly intergenerational service.

In order to create my own intergenerational program, I visited our ten local retirement and assisted living centers, assessed residents' needs, and listed their wants, contact information, and possible elderly activities on my website, www.utahyouthconnect.org. Then, I secured a sponsor, Firehouse Pizzeria, to reward volunteers for service by recording their "services" (service selfies) on the Utah YOUth Connect's Facebook page. Next, I solicited help from church, city, and school leaders through letters and presentations and requested two youth to represent their organization on our Utah YOUth Connect Advisory Board. I then enlisted principals from each school to provide year-round student visitors, letters, and decorations for the 640 instituted residents and raised $5,000 from grants and businesses for transportation. Finally, I raised awareness for our seniors' loneliness in our community and encouraged involvement in Utah YOUth Connect to ease social disconnectedness through an extensive advertising campaign; the campaign included YouTube videos, commercials, assemblies in elementary and middle schools, and interviews on ABC Channel 4, Channel 2 News, and Aggie TV.

To date, Utah YOUth Connect volunteers have provided over 20,000 service-hours to their new "grandfriends" in the past five years. But what makes Utah YOUth Connect so powerful is that it brings together our community in a common cause to positively influence residents' health by bringing needed attention to the institutionalized seniors, while empowering youth to take action, serve with friends, gain a greater education of the stages of life, and boost their self-esteem.

One of the greatest success stories I experienced through Utah YOUth Connect was that of Maria, an early member to our program. Maria had a rough background. She had started a gang but then had the courage to leave. However, she was still experiencing backlash from them. She joined my program, and when we went to the retirement center for the first time, we saw her change and her age-based prejudice dissipate. When I talked to her after we went, she told me, "I thought the elderly were going to be grumpy old people who threw plates at me when I walked in. Instead they were super happy and loved me for me." They saw beyond her past and helped her realize the good within her, and that she could make a positive difference. They were appreciative of whatever she did no matter how small.

After this experience, Maria went back to her school and started her own Utah YOUth Connect club and got lots of other students involved. She told me one of her friends that she took to the retirement centers for the first time didn't have grandparents that lived close by, and when she took him to the retirement center, he bonded with this

older lady and adopted her as his grandma, and now, either visits or calls her every day. Because of intergenerational service, Maria went from being one of the shyest people I know to being one of the most outgoing. Her grades improved, and she realized that she could make a positive difference in her life and in the lives of others.

Conclusion

Both the youth and the elderly suffer from loneliness or social disconnection today. However, as we incorporate intergenerational programs into our schools and society, we will not only help the youth and elderly feel loved and needed, but we will also increase their overall health and education. I encourage everyone to get involved in intergenerational interactions of any kind. Like Margaret, Madison, Maria, and countless more, you too may find that just *one hour* can change *two lives* forever. ❑

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Losing Our Language: Guam's Native and Endangered Language

Anavae Remetio

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About thirteen years ago I moved to Utah from a little island in the pacific called Guam. I was born on Guam, and I lived there until I was about five-years-old and even attended a preschool there. Moving to the States was a drastic change for me and my mom because we had never lived off the island, and we left a lot of family back home on the island as well, including my grandparents. But because they had a lot of grandkids living in Utah, they would come to visit every once in a while.

When they did come to visit they often brought back food and treats from Guam that we could not find in the States. They also would speak to each other in Chamorro,

the native language on Guam, a language neither my parents nor I learned how to speak. When I was younger, I never really questioned why it was that the kids never learned the language my grandparents were speaking or really cared very much about it, but as I began to get older, I started to wish I had learned to speak Chamorro and wondered why I never got the chance to learn it. At times it was upsetting that the language never got passed down to my generation. For the most part, most of my parents' generation could understand what was being said, but not speak fluently, and I could not even do that. All I know is little fragments and phrases for words like "hello" or "thank you." Many Chamorro kids my age have a similar experience when it comes to the Chamorro language. Our grandparents' generation did not have the opportunity to pass down the language to their children, and this has endangered the language.

The Chamorro language was changed so much and is now being used significantly less than it was in the past because it was not passed down to the younger generations of Chamorro people due to the colonization and changes in society on the island. Because the language was not passed down, it has become an endangered language which is a problem because this means Guam is at risk of losing a significant part of the culture. The preservation of Chamorro should be the goal for the island.

According to the Linguistic Society of America, an endangered language is one that is at risk of becoming extinct, meaning that the language will fall out of use and cease to be spoken. This means that newer generations are

not learning to speak their native languages and so it will die along with the last speaker of the language. Often languages are not being passed down to the next generations of speakers because they are being overshadowed by languages that are more widely spoken, like English or Spanish. This process is happening to many languages around the world, especially to minority languages, primarily due to genocide or pressure to give up native languages. The people of Guam, known as Chamorros, were pressured to give up or change their language when different groups of people colonized the island.

Guam was colonized many times, but the first group that came to the island was the Spanish. The island was discovered by Ferdinand Magellan, but was not colonized until a Spanish priest came to the island to convert the Chamorro people to Catholicism. The Spanish military eventually took over the conversion of the Chamorro people. The Spanish brought new traditions to the Chamorro people, resulting in a loss of many of the old traditions, beliefs, and stories that the native Chamorros had before the Spanish came to the island. In addition to bringing the Spanish culture to Guam, the colonizers also brought diseases that Chamorro people had not been exposed to prior to the Spanish coming. These diseases led to the deaths of thousands of native Chamorro people, leaving a fraction of native Chamorro speakers on the island to keep the original culture and history of the island (Herman).

Colonization on the island impacted the culture on Guam, but it also had an immense impact on the language. According to The Smithsonian, "Today, the Chamorro language retains its traditional grammar, but 55 percent of the vocabulary borrows from Spanish" (Herman). Over half of the Chamorro language is comprised of Spanish words. Because of Spanish colonization on Guam, Chamorro is vastly different than what it once was. The overwhelming presence of the Spanish colonizers on Guam made a great impact on the vocabulary of Chamorro, blending the two languages and ultimately changing the way Chamorro is spoken.

Chamorro was changed so much because the Spanish stayed on Guam for a long time and integrated themselves into life on Guam. However, eventually the Spanish would surrender the colony to the United States, who took control over the island after the Spanish-American War (Little). Once the U.S. was in possession of Guam, control was given to the naval authorities. During this time, Chamorro people were not treated as citizens. They had no representatives in the government and no access to any of the judicial system (Bevacqua). In addition, General Order no. 12 was placed over the island, pertaining to the education system on the island. This order placed the U.S. government in control of the education system and introduced English into every school (Campbell). Children in school would begin to receive their education in English. General Order no. 12 was the beginning of English becoming a part of all aspects of life on Guam, and English would continuously progress on Guam until the U.S. lost governance of the island.

Japan took over the island during World War II. Japan took a more brutal and forceful reign over the island, which would lead to the killing of a large amount of the Chamorro people (Kuper). Their tragic deaths meant less Chamorros to pass on the Chamorro legacies and culture. However, Japan's rule over Guam was ended early when the U.S. fought to take back the island under their rule once again.

The U.S. came back to Guam and freed the Chamorro people from World War II Japanese rule. The Chamorro people were living under significantly better conditions after the U.S. made it back to the island, however, this would mean going back to the policies that the U.S. had in place before the Japanese Occupation. The education system would be run by the U.S. government with English-only policies within schools. My grandfather, Antonio Flores, was going to school during this time and experienced the English-only policies that were put in place at the time. In schools, students were taught in English and were required to speak English. Children were punished with fines if they were caught speaking Chamorro as a means to enforce the rule. Education began to move away from Chamorro, and society moved along with it.

As time went on, the American military brought more and more Americans to the island, to the point that more English speakers lived there than Chamorro speakers. So, when my grandparents' generation was old enough to be parents themselves, they realized that English had become the language that was primarily used on the island, and that it would be beneficial for their children to speak

English. It was not that parents did not want to pass down the language, but English was being spoken significantly more often than Chamorro. English was beginning to be found not just in education, but in the music, entertainment, and conversation on the island. Society on the island created an environment on Guam that did not support Chamorro. This environment meant that Chamorro would have to take a step back for English (Flores).

With Chamorro fading out of use, Chamorro culture would also take a hit. Language and culture are linked to each other. Language is a form of communication comprised of the historical and cultural background for people. Language offers insights to a society's point of view of life (Jiang 328). Through language, people experience culture through art forms, such as poetry and music, or expressions, humor, or conversational styles. All of these experiences would be vastly different if in another language (Woodbury). It connects people to those that came before them because it gives the future generation a style of communication that was customized and fitted to the people who spoke that language. And with every new generation that the language gets passed to, new words, phrases, and styles will be formed, which will be passed to the generation after them and the same process will happen again and again. Through language, we pass down characteristics that were unique to the people that spoke the language before us, and we form new characteristics, which will hopefully be passed on to the next generation of speakers. To lose a language, means to lose all those unique factors that were put into it. Those unique factors that were

put into the language are bits of the culture that they were formed in. Language communicates those bits of cultural information through linguistic uniqueness. This strong connection between culture and language highlights how important it is that Chamorro is recognized as an endangered language so that changes may continue to be made to save the language from going extinct. Preserving the language will preserve the cultural connections that come with it.

It could be argued that because Chamorro is only spoken by a minority amount of people, it is not a useful enough language to keep around. It is true that there is only a small amount of people that are Chamorro and the language would most likely not be spoken outside of the Chamorro population, so of course it would be advantageous to know the English language. However, while English is useful for easy communication with a large amount of people, it is essential to continue the use of smaller languages in order to promote linguistic and cultural diversity. Diversity in culture and language opens the door to new ideas, and linguistic diversity especially helps linguists understand the possibilities and limits, similarities and differences, and cultural information that comes along with language and how it pertains to the world developing around it. When languages are lost, it limits our abilities to obtain this vital information and closes the doors to new ideas that can come from different ways of thinking and communicating (Woodbury). By supporting the preservation of Chamorro, it also promotes this need for diversity by keeping another language alive.

In order to support the preservation of Chamorro, changes need to be made. Children learn languages easiest when they are young so in many cases it is beneficial to start teaching children a second language, in this case Chamorro, while they are starting or about to start school and allowing them to continue to practice. So of course, it is important that Chamorro be integrated into the school system to begin teaching kids how to speak their language, but that should not be the only place Chamorro is used. Chamorro should also be used in the home and throughout the community, workplace and businesses, and everyday life in general in order for the language to be revived successfully (Salas). Guam needs to start encouraging the use of the Chamorro language in all aspects of Chamorro people's lives.

The Chamorro language is a vital part of Chamorro culture, and to let the language become extinct means to lose a huge and integral part of Chamorro culture. Guam has been through so many hardships and losses throughout its history. It would be a tragedy for Chamorro culture to take another loss when there is still a possibility that it can be saved. ❑

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金継ぎ

Kintsugi

Hailey Henstrom

This essay composed in December 2020 and uses MLA documentation.

Disclaimer: This essay contains discussions of sexual abuse and self-harm.

I lay curled on the floor feeling too many emotions and complete numbness simultaneously. The 1-inch foam mat did not provide much padding on top of the hard, aging carpet. His arms were still wrapped around my waist, a constant reminder that I wasn't going anywhere. A reminder that Kimball was still much taller, stronger, and more powerful than me. His hot breath crept down my neck with each exhale, making my stomach churn. Even if I was able to get out of his grasp, I'm wasn't sure where I would go or who I could tell. Certainly not my parents, who were fast asleep in an upstairs bedroom. So, I accepted my fate. I fell asleep in the floor of my grandfather's basement with only one thought. *I am broken*.

The human brain is amazing in its ability to store information as well as repress it. In normal circumstances, the brain is highly active in memory and the storage of important data. However, in times of extreme stress and trauma, memories are repressed and hidden. The brain does not choose the more common fight or flight responses. It chooses to freeze. It chooses to forget, to subdue. The word "memory" typically has a positive connotation. Memories of childhood birthday parties, eating ice cream at the beach, and riding a bike for the first time. What that connotation fails to recognize is that some memories are not positive. In fact, they have the ability to shatter an individual's identity, trust, and soul.

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Simply translated, kintsugi *means* to repair with gold. This art form originated from 15th century Japan, where Ashikaga Yoshimasa, a military commander, broke his prized tea bowl. He later sent this broken bowl to China to be repaired, but was disappointed to have received it back only stapled together. Rather than throwing out the bowl upon seeing its failed reparations, Yoshimasa consulted local craftsmen, who decided to fill the cracks of the bowl with gold lacquer (Mantovani). Not only was the bowl repaired, but it had become even more beautiful than its original state, thereby causing the new art form of *kintsugi* to be born.

Kintsugi became one of the core aspects of a Japanese Zen school of thought known as *wabi sabi*. *Wabi sabi* is known for celebrating "what is simple, unpretentious and

aged – especially if it has a rustic or weathered quality" (Cotton). In her TED talk, Cheryl Hunter, an educator, author, and public speaker, discusses her experiences with *wabi sabi* while briefly living in Japan. When asking elders what the principle meant to them, she received two insightful responses. One elder explained that *wabi sabi* taught "the beauty of any object lies within the flaws of that object…the mistakes and damages…the ruined parts" (Hunter). The other offered the view that "beauty is a study in contrasts… so something can only be seen to embody perfection if it also embodies a correlate degree of imperfection" (Hunter). These theories on beauty and perfection fit the ideals of *kintsugi*. In order for a piece of pottery to become a beautiful piece used in the art of *kintsugi*, it must first be broken. When repaired, the flaws are not hidden; it is still clear that the pottery has been broken. However, the seams of gold that highlight the previous broken state makes the pottery more beautiful and cherished than before. The perfection of *kintsugi* lies purely within its imperfections.

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I can't breathe. I sat on the edge of my bed hyperventilating, desperately searching for the air that seemed to have disappeared from my surrounding environment. I knew I was having a panic attack, but this information had never helped me successfully calm myself down. Most times, I just gasped and cried until I ran out of water to shed and energy to use. Waiting until one of those happened didn't feel manageable today. I needed to feel something. I needed to feel grounded. The only tactic I had

never tried seemed like the only viable one. So, I grabbed the X-Acto knife off my desk. The thin lines I traced into my upper thigh quickly turned from white to scarlet. To my surprise, as the blood left my body, so did my panic. I finally could feel something. It hurt to walk to classes the next day. I was filled with regret for what I had done, so I told no one. I only told myself, "I am broken."

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Once more, I sat on a thin foam pad on the ground. This time, I wasn't in Utah but in Battambang, Cambodia. The past two weeks had been the best of my life. Though I had been travelling with complete strangers, we had become close. There was something about working long days of manual labor on a construction site in 105° F heat that brought people together. Today had been different. As I returned to my room, concrete plastered in my French braids, a faint memory tickled the back of my mind. I pushed it away and showered instead. After getting dressed, I sat on my makeshift bed to relax. The thought came back and this time, I gave in to its persuasion.

Though I may never remember what unlocked those memories, I do know my life was never the same afterward. I had remembered. Remembered the two nights I was forced to sleep on the floor with my cousin. Once that image entered my mind, there was no stopping the flood. I couldn't help but replay those two nights in my head on a loop. I shuddered to think what he did to me. Where he touched me. The things he said to me. My first emotion was not anger at him, but at myself. Why hadn't I run,

screamed, and kicked? What had I done to provoke him? In the end, only one question remained. "Why am I so broken?"

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The next year was filled with bitter phone calls between brothers, lawyers, police interviews, and an immeasurable number of tears. I now stood outside the Provo courthouse, terrified to step foot inside. The architects may have intended the thick, smooth marble to symbolize justice, but it looked cold and callous. My mom grabbed my shaking hand with her own and led me inside. After an eternity of briefings by the prosecutor, it was time for me to enter the courtroom. I knew my cousin already sat in there with his lawyer and his parents, dressed in a clean suit to give the appearance he cared and hadn't denied to everyone what he had done to me. As I walked the few feet to my seat, I heard nothing but the beat of my heart in my ears. No sooner had I made it to my seat than I was asked to stand and introduce myself and my connection to the case. "Hailey Henstrom, victim and cousin," shot out of my mouth as quickly as I could manage. Not quickly enough for me to miss the stares. The stares of my aunt, the judge, and my cousin's lawyer. They could all see my shaking hands and muscles, the tears welling up in my eyes, and the fear plastered all over my face. They knew I was broken.

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My court case only ended in June, after a grueling year of dealing with a justice system that claims to protect victims,

but doesn't. Despite a less than optimal sentencing of therapy to my abuser, the growth I have experienced through this hardship, especially within the past few months, is miraculous. After briefly researching *kintsugi* for a school project, the ideals of the art form have stuck with me and resonated with my struggles. One of the most magnificent facets of *kintsugi* is its focus on making "the most of what already is, highlights the beauty of what we do have, flaws and all, rather than leaving us eternally grasping for more, different, other, better." (Mantovani). When I view myself in the eyes of *kintsugi* and *wabi sabi* principles, I realize that being abused and struggling with depression and anxiety does not make me less than anyone else. Living through those experiences makes me all the more beautiful and valuable.

I did not get to choose to be broken when I was abused. I have come to realize that it has never been my fault that my own cousin decided to fracture me. I can control how I use the value I have acquired through my healing. My story and experiences have allowed me to give advice to girls who have been or are in the same situation that I was in. It's allowed me to network with girls who my cousin knew and provide them with a way to tell their stories of him assaulting or harassing them. Without my trauma, I never would have been able to advocate for those who may not be able to speak for themselves, or are not comfortable doing so.

I spent too many years thinking that because I was broken, my worth was less, that my cracks and imperfections made me a useless object beyond repair.

What I failed to realize was that I would eventually heal, at least partially. I will not claim that my healing process was easy, or even that it is over. Even with *kintsugi*, repair is a tedious process. The gold lacquer takes a long time to try and the dish can always break again. Regardless of the painstaking process, the result is always more exquisite than the unbroken pottery could have ever been. *Kintsugi* shows me that I am broken and there is something to be celebrated in that.

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"What makes you magnificent is that everything you previously believed was wrong with you."

-Cheryl Hunter ❑

If you are experiencing or have experienced sexual assault and/or sexual abuse, the Rape, Incest & Abuse National Network (RAINN) offers a hotline where you can be connected to a trained staff member who can talk you through your experiences, refer you to local resources, provide you with information about laws in your community, and walk you through the next steps in your journey. This hotline is accessible by dialing ***800.656.HOPE (4673)****.*

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Scars

Jacob Mecham

This essay was composed in February 2021 and uses MLA documentation.

Disclaimer: This essay contains themes of self-harm.

I had just gotten home from my last day of the third grade, and I was in tears. My teacher had given us all a wooden skewer lined with strawberries, and I, being a careless and excited third grader, had made the mistake of running while trying to reach the last strawberry. I will never forget the horrifying sensation of a wooden skewer piercing the roof of my mouth. As I stood up, it just hung there and had no intention of moving until I made the brave decision of removing it myself. As I got to my house, I could feel the air from my breaths passing through my wound and making whistling noises. On one hand, I could now whistle, which I had never been able to do before. On the other hand, I knew I would feel the soreness of the mark after every drink and every bite of food. I remember distinctly the words my mom said to me as she told me to open my mouth wide so she could get a look, "That's going to leave a scar."

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The word "scar" has many definitions, making it a versatile word in describing natural and emotional situations. Some definitions found in Webster's dictionary include, but are not limited to, "a mark remaining where something was attached, a mark or indentation resulting from damage or wear, a lasting physical or emotional injury" (*Webster*). With these three simple definitions we can better understand scarring in all aspects of our lives. The entire world is made up of scars. In geology, scarring exists when there has been erosion to an area, leaving a permanent and noticeable change in the landscape. Likewise, scarring can happen in the ocean due to glacial flow and moving icebergs further out at sea. The trees and plants all around us are scarred, whether it be by lightning, hungry animals, or enamored teenagers with a pocketknife. In situations such as the latter, these scars are not always naturally occurring but are intentional. The place in which scarring is perhaps most prevalent is on our own human bodies. I personally am owner to over 40 scars, each with a different story and each a reminder of something I learned. They will fade, but they will not go away.

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A month after my fourteenth birthday I started having health problems. I had just started high school football, and although I could kick further than the starting kicker, I was benched. Every time I would go to kick, my chest would tighten, my stomach would drop, and I would pass out. Although I would eventually figure out what the problem

was and my kicking would improve, I would also lose my chance of playing that position the next year. I learned soon after that symptoms of a dying gallbladder were abdominal pain, chest pain, nausea, and, in extreme cases, passing out. I have four scars on my stomach that now remind me of three things. First, maybe football is not my sport. Second, when you are in the hospital and you know the nurse, she will bring you chocolate shakes, even if you just had one two hours ago. Third, even though a gallbladder removal is a laparoscopic surgery, which uses small incisions to remove your gallbladder through your belly button, those four tiny scars will never go away.

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Sometimes, the lessons we learn and associate with scars are not always so pleasant. Many times, physical scarring is accompanied by emotional scarring and these are the lessons that stick with us even though they are not so pleasant. My two-inch scar on my right forearm is a reminder that trucks need longer to cool down before your hand goes near the engine block. It is also a reminder that arms bleed, sometimes more than you would like to see. The dime sized scar on my left wrist serves as a reminder that sometimes the blade comes out of a pencil sharpener. My physical scars will tell you that I can be clumsy sometimes, but you would miss the full story if you did not know what my emotional scarring tells you. My emotional scarring would tell you that it is not too expensive to pay someone to service your vehicle for you, and that $1.50 is a small price to pay for a mechanical pencil that does not need sharpening.

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The strongest lessons I learned are from the remaining 38 scars between my shoulders, arms, and thighs. These scars would tell you that I used to be sad, that I did not have too many friends, or that I wanted attention. Without knowing the emotional scarring, however, you miss the full story. What these 38 scars remind me of is that even having a hoard of friends can be lonely if you do not really want to be there. They remind me the sad does not even begin to describe an emotion that most people feel when they resort to self-harm. Most cases of self-harm are expressions of losing control. My therapist once explained to me that self-harm is a person's way of controlling some emotion. If the pain is by my hand then I know the cause, and I know it can stop. In the minds of some, this is much more comforting that not understanding your emotions or knowing when they might improve.

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Self-harm is more common than people realize. In fact, self-harm has a term commonly used in the world of mental health- non-suicidal self-injury (NSSI). Those who self-harm often cut, burn, or punch themselves with the intention of causing pain without ending their lives. Unfortunately, this is something that impacts the lives of many people. Demographic research shows that people self-harm regardless of race or socioeconomic and while females represent the public's perception of NSSI, as many as half of self-injurers are male. Taking this in to account

we can start to see that this is a problem that is prevalent in every city all around the world. (*DeAngelis*)

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The Japanese have a method for repairing broken items that results in a form of scarring. Kintsugi is the Japanese art of repairing broken pottery by mending the areas of breakage with lacquer dusted or mixed with powdered gold, silver, or platinum. This is done to treat the breaking as part of the item's history rather than a moment to be disguised (*Richman-Abdou*). The most important lesson I learned through all my scars is that they are not something I need to hide. I have been fortunate enough to not repeat my breaks in four years, and the goal is to never "break" again, but I am not ashamed of my history or the things I have learned. I have learned that I have support from others who want to build me up, repair me, and turn those cracks in to something I do not need to hide. I have learned that scars are everywhere, and they tell a story. ❑

Text HOME to 741741 to connect to a Crisis Counselor for yourself or a loved one who is struggling with self-harm. Helpline volunteers are trained to help you find the support and information you need.

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"Rexi" Girl

Rachel Jackman

This essay was composed in October 2021.

Read the books required for school, but nothing else unless it encourages you to be skinnier. Watch these documentaries on eating disorders, but don't take the girls' journeys as motivation to get better; watch them to see what you need to become. Don't eat sugar, bread, pasta, cheese, or red meat. No, you can't drink soda; no, not even diet soda. You'll never be good enough. You'll wake up at 5 tomorrow morning and work out for an hour. I don't care if you're tired; you're fine. You want to eat dinner? No, you don't. You want to be thinner. You know the saying: skip dinner and you'll be thinner. You're seriously going to have two eggs for breakfast? Do you realize how that will affect you? Get on the scale; you're not skinny enough. *I'm hungry*. No, you're not; you're fat; there's no way you can be hungry. Go for a run; I don't care how sore your legs are, or how much your lungs will burn when you hit your fifth mile; I didn't ask you about the black spots clouding your vision when you go up the stairs. You're fine. Feel that? Feel your stomach? That's fat; you

need to get rid of it. *It's just skin*… No, it's fat. They'll try to tell you it's skin but that's what fat people say; you don't want to be fat so don't give in to those lies. You'll never be good enough. Your thighs are still touching; you need to fix that. Take these pills; they'll make you feel better. When your stomach starts hurting, don't you dare complain; someone will figure it out. Remember every calorie you consume then take that amount and times it by ten; that's how many sit ups you have to do tonight. Don't get up too quickly or you'll pass out; if someone sees that they'll throw you back into that prison they said would help. You gave into their lies and now look at yourself; you're fat again. When you eat too much, don't let it stay; take more pills; run until you pass out, then run more. You're still not good enough. They're starting to notice. Put on more makeup; hide the dark circles under your eyes. Don't even look at that cookie; it will kill you. *60 calories for1-inch cookies*…That's 60 too many; how can you bear to live with yourself? Stick your fingers down your throat until you start to gag, then push harder; even when you're throwing up blood, keep your pushing against your throat; this will make you skinnier. Never eat before noon or after 6 pm; in those six hours, you can only eat 400 calories. Weigh yourself again, again, again; you only weighed yourself twice today. Buy two scales; it will ensure you're getting accurate numbers. Drink more water; you'll feel fuller that way. You ate too many carrots; you can't listen to the lies you're being fed; you're already consuming too much. Take more pills; how can you stand to look at yourself? Document every calorie you consume and lose; your totals should be in the negatives by the end of the day. Look at the

girls in your cooking magazines; they look so miserable, blown up from the sugar they eat. You can never look like that. Cook all day long and dance around the kitchen to burn more calories while you do it; you're happy to be starving yourself; you should be dancing. Bring the cupcake batter up to your lips and take a long whiff; smell the chocolate and tempt yourself to eat it, but never touch it. You have to stay in control; you cannot afford to have even a lick; you have to prove that you're strong enough. Tell your friends you have a high metabolism. Tell your parents you're not hungry. Take more pills; eat less; look at the pictures of those sick, anorexic girls. That's what you need to look like: a "rexi." Purge more, purge harder. You can only eat one rice cake per day. No, not the chocolate ones; you shouldn't care how good they taste. *The white cheddar rice cakes are 30 calories less than the chocolate ones…* Drink more water. Weigh yourself again. Wrap your stomach in plastic wrap until you can't breathe. Make sure your arms are never wider than a silver dollar. This is what beauty is. Lose five more pounds, no matter the cost. Your BMI should be the same number as when I started talking to you. Do all of this, and you'll finally be good enough; you'll be another one of my creations; you'll be a rexi girl. ❑

Contact the NEDA Helpline for support, resources, and treatment options for yourself or a loved one who is struggling with an eating disorder. Helpline volunteers are trained to help you find the support and information you need.

"Lady"

Samantha Bishop

This essay composed in October 2020.

A lady must have proper posture; eyes forward, head up, shoulders back, back straight, stomach in, for a lady never slouches unless she wishes to be a hunchback all her life; when a lady takes a seat she always keeps her legs together, a lady may cross her ankles but not cross her legs, a lady may not take more room than need, and she may not sit with her legs apart especially when in a skirt or dress, after all, a lady does not risk showing her undergarments to others. A lady is more often seen and not heard, she does not speak out of turn, she does not raise her voice, nor mumble when spoken to, she does not stutter, she does not curse, you are not a moron, therefore, speak clearly and eloquently. She must refrain from sarcastic remarks, for they may cause offense, but always remain witty, to prove her intelligence. A lady is always well groomed, she does not wear see through clothes, nor does she wear anything sized too small, a lady may wear a shorts or pants, but must wear a skirt or dress on certain occasions. A lady always maintains her hair,

brush twice daily, style it out of your face, wash it every other day to keep it clean and not oily; you are not a backwoods hillbilly, so get it trimmed regularly. If a lady chooses to paint her face with make up, then do a simple style that highlights your natural features. No obtrusive colors, no dramatic lip, keep it simple keep it classy, match foundation to your skin, match your eyeshadow to an outfit's accents, for a lady is not a porcelain doll, covered in many shades. A lady keeps her nails trimmed, she never bites them off, for there is nothing more unattractive then spitting nail shards out. A lady must always remember her manners for she is not a heathen; always say please and thank you, always bless others after they sneeze, a lady always says excuse me or pardon. A lady does not make any odd or strange noise, a lady does not boisterously laugh, nor does she giggle, chortle, snort, or scuff. A lady never burps, slurps, or make any other bodily noise. A lady is attentive, meek, and docile; she is not boorish, whorish, or glum. You are not a shrew, do not act wild or passionate, for no man wants to tame a wilding for a wife. A lady is always in good disposition no matter what happens, she must smile gently, acknowledge those in greeting. A lady must remember her place, she does not question those of a higher power, she does not involve herself in worthless gossip, nor does she nose her way into problems that do not concern her, for a woman has no place in situations above her head, and to seem too curious is off putting. A lady does not eat like a pig, she always eats small amounts, she never shovels her food, and always finishes her plate. A lady does not chew with her mouth open; a girl does not chew loudly, you are a girl not a cow, do not act like one. A lady must

learn proper etiquette for proper private and public settings. A lady does not flirt with boys, a lady never leads a man on, a lady is not a tease, a lady does not kiss and tell, and a lady does not sleep around or cause scandal, for virtue is her gift. A lady completes her chores on time, a lady does not procrastinate, a lady always gets things done on time, a lady does well in school. A lady may have a cell phone, but may not have any secret chats, she must make sure its charged and in one piece, never let it crack; she may have social media, but she may not post risqué photos. A photo speaks one thousand words, make sure those words do not taint your reputation. These are what a lady must be, though it may seem archaic, but for a woman to get ahead in life, she must be a lady. ❑

PERFECT

Scarlet Noorlander

This essay was composed in January 2021.

What's your name?; tell me about yourself; wow, you're perfect; ***i hate being called perfect****;* why don't you have a boyfriend?; wow, you're so perfect; ***you don't know me***; talk to me; hang out with me; laugh with me; go out with me; just be your perfect self; spend time with me- when I want you to; reach out to me, but don't expect a quick reply; smile- you have a beautiful smile; call me, i miss you; share your feelings with me, but only the ones I want to hear; will you sing to me? you have the perfect voice; wow, you really are perfect; i hope you aren't crazy; stay perfect- don't change anything; message me first, just don't appear desperate; ask me out—if I feel like it I'll show up; why are you so upset?; don't be angry, only crazy girls get angry; be interesting, but not too interesting—I can't have you overshadow me; what did I do to deserve you?; you're such an angel; you're gorgeous, don't show it off too much though, or the other guys will start looking at you; don't be jealous; you're mine but you're just too perfect for me to let anyone know—you're

just too perfect for me to stay; ***do you even hear yourself?;*** don't be so emotional; you're being dramatic, i didn't even do anything; it's fine I forgive you; stop overthinking everything; good; you are perfect after all; i'm here for you; you know you can tell me anything; ***I keep my emotions in so I won't get hurt again;*** that's bad!; you shouldn't hide your feelings; God gave us feelings to express them; you already know that though because you're MY angel; you can do anything; have ambitions but don't share them with me- stay the blank canvas that I can paint any colors I want; smile- you're happy remember?; why are you acting differently?; that's not who you are; ***when you're put on a pedestal you have a long way to fall;*** don't worry about things so much; ***how can I not?;*** don't try to figure out what i'm feeling; ***do you even know what you're feeling?;*** don't talk to him; ***why should it matter?***; don't argue with me; ***don't try to control me, then;*** don't contradict me; ***that's ironic;*** don't sass me; ***wh-what sass?;*** don't make things so complicated; ***it takes two to tango, pal;*** don't tell me we're just friends; ***but that's what YOU just said;*** don't be too clingy; don't try to pretend you don't like me; don't move on; don't forget about me; don't cramp my style; don't walk away from me; don't expect so much; don't EVER give me an ultimatum; ***what's the point in playing a game i'm gonna lose?***; don't call me out; don't get other people involved; don't start acting crazy like the other guys told me you would; ; ***don't, don't, don't… so what do you want?;*** you know I love you; I love everything about you- your long blonde hair, your big blue eyes, your flawless smile; you always know exactly what to

say; you always know when I need your help; I don't know what else to say you're just PERFECT; ***you and I both know I am not perfect--don't put that on me it's too much pressure****;* But you are perfect, you're perfect for me, so please don't ever change; ***DON'T. call. me. perfect****; blah blah blah blah blah* FUNNY; *blah blah blah blah* SMART *blah blah blah*; what would i do without you *blah blah blah*; i'm so blessed to have you *blah blah blah*; *blah blah blah* TALENTED; you're everything i've ever wanted; ***BLAH BLAH BLAH****;* you'd make the perfect trophy wife; HAHA just kidding, don't get crazy; i've never felt this way; please don't ever leave me; don't give up on me; you CAN'T possibly expect me to be perfect? ❑

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