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The superhero inside: Exploring the minds of ourselves and our superheroes

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The Superhero Inside:
Exploring the Minds of Ourselves and Our Superheroes

An Honors College Project Presented to
the Faculty of the Undergraduate
College of Health and Behavioral Studies
James Madison University

by Briana G. Craig, Expected B.S. Psychology

Accepted by the faculty of the College of Health and Behavioral Studies and the College of Arts and Letters, James Madison University, in partial fulfillment of the requirements for the Honors College.

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Dedication Page

Dedicated to the family and friends who poured support and love into me throughout this process. To my parents, who were willing to concede on movie nights and watch whatever superhero movie I wanted. To my Jon, who read any chapter I sent his way without complaint.

To Katie, who gave me the idea for one of my favorite chapters.

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Preface

When I was a young girl, I used to swear that I would write a book one day and get it published. I skipped recess to spend my time writing works of fiction and biographies about my dog, Chip. Throughout middle and high school, the desire to bring words to a page in new and interesting ways never left me. I wrote plays, poetry, stories, and news articles. At times, I would be so excited about a project, that I couldn't focus on anything else. Then, it all changed when I came to college. I was pressed for time and overwhelmed by a sea of unfamiliar faces and opportunities. For my undergraduate degree, I chose to study the human mind, and focus my interests on research and statistics. Any writing I completed was strictly for research purposes, and not for the joy of it.

When it became time for me to choose a topic for my honors thesis, I realized that I wanted a break from research. I had been involved with three separate research labs and I wanted to do something different. For me, different meant returning to that old dream of wanting to write a book. The psychology component was a given from the start, after all, my entire undergraduate career was based on it. As for the rest, there is no interesting anecdote to why I chose superheroes for my topic. I was simply brainstorming while wearing batman pajamas and the idea took root.

The prospect of writing about the psychology of superheroes excited me for many reasons. The topic interested me and felt relevant to the current culture trends. This book was an opportunity to learn and invest my time in something worthwhile and fun. I was not expecting, that this project would force me to grow. Writing this book humbled me in many ways. I realized I did not understand psychology, superheroes, or writing as much as I thought I did. I heavily researched all three areas throughout this process. I needed to brush up on my grammar, and

revisit old lecture notes and textbooks, but I never missed an opportunity to see the latest superhero movie “in the name of research.” This project challenged me, testing the limits of my determination with every new chapter, and testing the limits of my procrastination with every new deadline. In the end, I am proud of what I’ve accomplished, and hope that the end product brings a little bit of joy to whoever reads it.

Acknowledgements

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Chapter 1
A Brief Catch Up:
Because Not Everyone is Fluent in Both Superheroes and Psychology

"It's a bird!"

"It's a plane!"

No, it's just the sky-rocketing box office revenue of the latest and greatest superhero movie. It's no secret that the popularity of superheroes has taken a recent turn upward. Hollywood has taken notice, and in response, a growing plethora of caped crusaders and spandex-laded sidekicks ave broken forth from their comic restraints.

But superheroes as we know them have been around since the mid to late 1930s, when the colorful pages of a comic book provided a means of escape during war and the Great Depression. So why are they so popular *now*? When did Superman gain the power to dominate an entire entertainment industry? When did Batman become a household name, next to Santa Claus? Why do we still flock to theatres to see Spider-Man, even though there have been eight Spider-Man movies released in a span of 18 years (2002-2018)¹?

Something attracts us to a world where a caped champion stands atop a city skyscraper and protects citizens against crime and danger. What is it, though? Do we aspire to be like them? Do we relate to them? Are they just cool to see in action? The purpose of this book is to explore the way that our lives intertwine with the fictional lives of superheroes. We can draw parallels between reality and comic books to reveal more about the way humans think, what they admire, and how they react to the tides of life.

¹ Sam Raimi's Trilogy (2002, 2004, 2007), *The Amazing Spider Man 1 & 2*, (2012, 2014), *Captain America: Civil War* (2016), *Spider-Man: Homecoming* (2017), and *Avengers: Infinity War* (2018).

Before we get into that, however, let's first take a moment to play catch up. Not everyone is fluent in both psychological science AND superhero mythology, so allow me to give you a brief introduction to both.

For the Ones Who Think DC is Only the U.S. Capital

First, I'll take a moment to address the readers who have never touched a page of a comic book. I'm talking about those of you who may not be considered "superfans." Maybe you're the type of person who's seen one or two movies and didn't think they were horrible. Maybe you bought yourself a Batman shirt once because it was black, so you thought it looked cool. Maybe you've committed the nerd sin of confusing DC and Marvel once or twice. Maybe you don't even know what it means to be from Marvel or DC...

Don't worry, I'll give you the run down.

Merriam-Webster's dictionary defined a superhero as a "fictional hero having extraordinary or superhuman powers," as well as "an exceptionally skillful or successful person." Often, when we think about superheroes, we focus on those extraordinary powers; thinking only about things such as super strength, flight, incredible speed, or mind reading. However, as the definition suggests, superpowers can be substituted for skill and success. We see this in the plethora of powerless crusaders who have earned superhero status through other methods (e.g. Batman, Iron Man).

Who was the first superhero? A question of heated debate, the answer depends on your definition. If we stick with Merriam-Webster, the concept of the superhero could technically stretch all the way back to ancient mythology. Consider the Greek hero, Hercules, who, being a demi-god, possessed strength and speed above that of an average human. According to our

definition above, Perseus would be considered a superhero because of these abilities. Perseus is not the only one either; many other ancient heroes would also achieve “superhero status.” The Merriam-Webster definition could even include modern day Olympic runners, since they have exceptional skill, or even wealthy tycoons, because they have had great successes.

For the sake of this book, we must narrow the definition and update the formula for how we recognize superheroes in the present. To do this, it is important to consider all elements of the modern superhero. This scope starts with the classic, brightly-colored and latex-clad champion running around, punching bad-guys in the face as the words “BOOM” and “POW” appear in fancy text boxes. This also includes the more recent, realist trend, where the somber hero stands in the shadows and debates the moral code and his own humanity.

Superheroes do not have to be *homo sapiens* per se but must at least be human-like. This accommodates the handful of superheroes that are mutants (e.g. X-Men), aliens (e.g. Superman, Martian Manhunter), robots (e.g. Red Tornado), demi-gods (e.g. Thor), and more.

But how do you draw the line between Thor and Perseus? Both find their origin in mythology, Thor from Norse and Perseus from Greek. Both have the blood of ancient gods in them. Both are featured in movies (Thor in *Thor*, Perseus in *Immortals*). Both fit the Merriam-Webster definition.

For clarity, I’ve provided an alternative definition for what a superhero is. In this book, a superhero must meet the first criterion, as well as two others from this list:

1. The superhero abides by a virtuous moral code.
2. The superhero fights crime in a costume of some kind, whether it be a cape and mask, or functional armor.

3. The superhero exhibits incredible powers or skills unattainable by ordinary humans
4. The character's role as a superhero originates from a comic book series.
(Characters conceived outside of a comic book, such as Thor, can meet these criteria if the comic book gives them a superhero title)

So now, back to the other question at hand. Who was the first superhero? Many believe that Superman was the first, making his debut in 1938. However, the Man of Steel himself was preceded by several superhero-like characters, including Dr. Occult and the Phantom. Considering our definition, the first superhero would be Mandrake the Magician, who made his debut in 1934. Mandrake mastered the art of hypnosis and illusion and used it to fight crime with the aid of Princess Narda and Lothar².

Although Superman may not have been the first superhero, his debut and popularity kickstarted the Golden Age of comic books, which lasted from 1938 to 1956. Many of the most memorable superheroes came from this era, including Batman, Wonder Woman, and Captain America (O'Neil, Showalter, Supovitz, Troxell & Shoaff, 2017). Comic books flourished and provided hope during the second World War and its aftermath. Towards the end of the Golden Age, comic books took a dive in popularity, due to a belief that they were corrupting the youth (which will be explored in Chapter 6).

Although comics were more closely regulated, many Golden Age superheroes made a comeback in the Silver Age of comics, which lasted from about 1956 to 1970. During this time, the world was introduced to heroes such as the Hulk, Fantastic Four, Green Lantern, and Spider-Man (O'Neil, Showalter, Supovitz, Troxell & Shoaff, 2017).

² The inclusion of Lothar made this team one of the first interracial teams in comic books.

The Bronze Age lasted from 1970 to 1985, and with it came the Punisher, Ghost Rider, and a resurgence of Conan the Barbarian³ (O’Neil, Showalter, Supovitz, Troxell & Shoaff, 2017). The Bronze Age reintroduced darker elements to the plots of the comics, such as poverty, drug use, and even the AIDS epidemics.

Currently, we are in the modern age of comic books, which began in 1985. Some comic book connoisseurs suggest that there are several eras that occurred between 1985 and the present day, but for simplicity sake I will only refer to this time as the modern age.

Hopefully, those of you who are less familiar with superheroes now have more context regarding the different time periods, so let’s take a moment to provide context for the psychology side of it all.

For the Ones Who Think We Only Use 10% of Our Brain⁴

So maybe you know a lot about superheroes already, you may even know more about them than I do. Maybe instead you don’t know much about psychology, and that’s okay. Psychology is the study of the mind, behavior, and influential factors in a person’s life. Although psychology is presently regarded as a science, it was once a branch of philosophy. This is because the mind is a tricky thing to measure, so theories were merely speculative for a long time. Psychology became more of a science in 1879, when Wilhelm Wundt founded the first psychologically-based laboratory (Farr, 1983). From that point on, many brilliant minds have dedicated their time to finding empirical evidence for the theories that were once only speculation.

³ He was created in Pulp Fiction magazines by Robert E Howard in the 1930s.

⁴ This really isn’t true at all. We use all of our brain. Hollywood lied to you.

As psychology developed as a science, it evolved into several different branches of study. Although psychology has diverse areas of focus, I will be referencing these branches throughout the book to varied degrees:

1. **Psychoanalytic** – Many people think about Freud when they think of famous psychologists. Freud was one of the founders of this area of psychology. This school of thought was based upon the principles of the conscious and the unconscious as operating forces in a person's behavior. Although many people think of Freud as someone who was obsessed with sexual urges and dreams, he was also one of the first to consider that events in one's childhood could have a lasting impact into adulthood (Cromartie, 1999)
2. **Cognitive Psychology** – This area of psychology focuses on understanding the process of mental thought. This includes studying attention, memory, perception, language, creativity and intelligence. This field is more about *how* we think, and what processes lead us to certain outcomes (Neisser, 2014).
3. **Personality Psychology** -- You may have an educated guess about this one. Personality psychology studies the individual differences between people due to an enduring set of traits that influence an individual physically, socially, and psychologically (i.e. their personality). Often, psychologists consider the Big Five personality traits, which chapter 3 will discuss in more detail (Larsen et al, 2017)
4. **Social Psychology** – Is the study of how human thoughts and behavior are influenced by other people, whether those people are close friends or complete strangers, present or

absent, real or imagined. Social psychology studies conformity, aggression, love, altruism, prejudice, and how people operate in group settings (Aronson, Wilson, & Akert, 2010).

5. **Biopsychology** – This approach to the human mind is heavily based on biological elements. Biopsychologists try to understand how people think, feel, and act in terms of the anatomical systems and the body’s balance of chemicals. This kind of psychologist may ask questions like “what area of the brain is active when people get angry?” and “what chemical element of drugs make them more addictive?” (Greene, 2013).

There are more branches to psychology than these (such as behaviorism) and there are more nuances to the disciplines than I will discuss. However, I found the above five most important to the arguments and discussions I will introduce in the book.

Concluding Remarks

With the introductions out of the way, I hope that you, the reader, can properly enjoy the following chapters, not as a psychologist nor a superfan, but with an open mind, curious about how two vastly different areas of knowledge can be woven together. By incorporating elements of psychology into a prominent part of pop culture, the goal is that at the end of the book, the reader will have a few answers, and even more questions.

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Chapter 2 What are the Odds?

“I spent my whole life searching for the impossible, never imagining that I would become the impossible”
-The Flash

Comic conventions is something to behold. When everyone is free to express themselves in all of their nerdiness, the result is a place full of color and life and sweat. If you look around the room, you’d probably see many excited fans dressed up in their favorite paraphernalia or going all out and donning a full costume in the likeness of a character they admire. Some of the costumed fans even take to behaving like said characters, quoting them perfectly from their many hours spent with those comic books, TV shows, and movies.

Not only do these conventions establish a sense of community among the fans, but they also give each person an opportunity to become Batman, Iron Man, Wonder Woman, Captain Marvel, or really anyone they desire—even if just for the day. Although lacking in superpowers, these fans make up for it all in spirit. This just goes to show that one of the reasons we love superheroes so much is because we want to be just like them.

My brother graduated with a degree in mechanical engineering. He thought that Iron Man was hands down the greatest superhero because he was basically “an engineer who saves the world.” In many ways, my brother reminds me of Tony Stark, from his sharp mind to his sharper sense of sarcasm. Taking someone like my brother, who ultimately has a good heart and strong moral code, what are the odds he could be a real-life Iron Man? What are the odds that *any of us* could become a superhero⁵?

⁵ Although this section diverts from the usual psychology overtones, statistics is actually a large part of my academic background, and it was only a matter of time before probability worked its way into a chapter. I found the idea of this chapter to be too interesting to leave out.

This chapter seeks to answer that question... to a certain extent. To do this, I've listed out a couple of the popular superhero origin stories (and one uncommon one) and taken a glance at the science, statistics, and logic behind the makings of a superhero. Do you have a chance at becoming one of the greats? Yes.

Is it likely? I'll let you decide.

Some Super Suits Have Deep Pockets

As I mentioned, my brother has similar qualities to Tony Stark. However, he differs from Mr. Stark in one major way; he is not a multibillionaire. Intellect aside, one of the biggest superpowers of men like Batman, Iron Man, or the Green Hornet is that their alter egos are filthy rich. This incredible wealth is what ultimately allows these ordinary people to afford the gadgets and technology that make them so extraordinary.

Not all superheroes are rich, or even well off. Consider Spider-Man, who often struggles for money to pay rent. Being rich, however, has been the avenue for a handful of lucky characters, and therefore is a completely plausible solution to us powerless, everyday folk who just want to don a cape. For most heroes, this money is a result of family ties, whether they are a wealthy heiress (like Batwoman), or heir to the throne (like Black Panther⁶). However, if you don't naturally have a rich bloodline, there's hope yet; a handful of heroes have built their fortunes from the ground up, like Professor X, founder of the X-Men and Xavier's School for Gifted Youngsters.

So how likely are you, an ordinary person, to become rich? One avenue would be to try your hand at the lottery, but you don't need me to tell you that probably won't work. For the U.S.

⁶ Black Panther, who could arguably be the wealthiest superhero of all time, also made a fortune off of monopolizing a rare fictional metal called Vibranium.

Powerball, you have a 1 in 292,201,338 chance of winning the grand prize, which might be enough to finance your superhero dream (or, you know, end hunger in your area). If you're aiming for *only* one million dollars from the Powerball, then you increase your chances all the way to 1 in 11,688,053.52⁷.

If you are looking to earn your way to that one million, your chances depend on several factors; specifically, age, education, and race. Economists William Emmons, Bryan Noeth, and Lowell Ricketts analyzed data from the Federal Reserve Board's Survey of Consumer Finances regarding these three factors to create a portrait of an American Millionaire⁸. The results? Education and age both affect your odds positively. Regardless of your skin color, being above 40 and having a higher degree are related to wealth accumulation (Stilwell, 2016).

Despite this, race was still the largest single predictor of wealth. Let's say you had four friends, each middle aged with a bachelor's degree, but each a different race. Your Asian friend would be the most likely to become a millionaire, with odds of about 22.3%. Your white friend is close, with odds of about 21.5%. Afterwards, a larger difference appears between your remaining friends. Your Hispanic friend has about a 6.8% chance, and your black friend has a 6.4% chance of becoming a millionaire (Stilwell, 2016).

An individual's race can make the odds less responsive to the individual's qualifications. For example, a black person with a graduate degree is only slightly more likely to be a millionaire (6.7%) than a white person with a high school diploma (4.4%). It is theorized that the

⁷ These odds were according to the Powerball website as of 2017. The odds were previously about 1 in 175 million but were changed in order to make the jackpot larger.

⁸ Millionaire does not mean you make one million a year, but rather that you have a net worth of \$1,000,000. That means the value of all of your assets (the total value of your jewelry, car, investments, savings, etc.) minus your liabilities (debts you owe) is one million.

gap may exist because of discriminatory hiring practices or being overlooked for promotion due to negative stereotypes (Stilwell, 2016)

Now, these were all facts about finances in the United States, who, along with Japan and Germany, is one of the largest homes to “high net worth individuals” or HNWIs (people who have \$1 million of investable assets). But would one million dollars even be enough? Let’s look at the Batmobile, the James Bond-esque super vehicle that has become synonymous with Batman saving the day. The Batmobile alone could cost you between \$265,000 and \$9 million dollars... depending on the times and your model (Wells, 2014)⁹. So maybe being a millionaire works out for you if you’re interested in a 1960s style, but if you want the bells and whistles, you may have to bump up your income to the billions. If you live in the U.S., you may be in luck. The U.S. houses about 26% of the world’s billionaires, currently more than any other country¹⁰. However, in a world of about 7.5 billion people, only 2,208 people have risen to the ranks of billionaire, and sadly none of them have devoted their time to becoming the next Batman (Kroll & Dolan, 2018). But then again, it's hard to imagine Bill Gates or Warren Buffet in spandex and a cape.

FINAL FIGURE: You have approximately a 0.0002947422% chance of becoming a billionaire¹¹.

⁹ The very first Batmobile was built for the 1960s Batman TV series using a 1955 Lincoln Futura (valued at \$250,000) and cost \$15,000 to build. Nowadays, Batman has traded out his keys for vehicles that are more tank than sportscar. The Batmobile featured in “Batman v Superman: Dawn of Justice” was said to have cost \$1 million to make and didn’t actually drive. It was estimated that in order to bring that version to life as a bulletproof working model with all the bells and whistles, the cost would jump up to \$9 million (Wells, 2014).

¹⁰ The US has 585 of the 2,208 billionaires. Data calculated from Forbes 2018 Billionaires List.

¹¹ The probability of winning the PowerBall (0.00000003422) + the proportion of current billionaires (0.0000002944) = 0.000002947422, in percentage form

Homo Sapiens Superior

In the X-Men team, superheroes are not created by wealth, but by their genetics. From Wolverine to Rouge to Cyclops, all members of the famous crime fighting team have their powers due to something called the X-Gene. This special piece of DNA activates at some point in the mutant's life (usually puberty), gifting him or her with some combination of psionic abilities¹², physical abilities, and/or changes in physical appearance. This means, instead of getting pimples and teenage angst, a mutant could end up growing a tail and blue fur... and would probably still retain that teenage angst. But before we consider the possibilities of an "X-Gene," here's quick overview of genetics.

All organisms, including humans, have DNA in each of their cells. For humans, this DNA gets packaged into chromosomes, which come in pairs (one set coming from the mother, and one set coming from the father). Chromosomes contain genes, which can determine whether a person possesses certain traits (such as brown or blonde hair; Centers for Disease Control and Prevention, 2015). A mutation occurs when something about the DNA gets changed. This can happen to something as small as a single piece (base-pair) of the DNA sequence, or to a sizable portion of a chromosome. For a mutation to be present in every cell in the body, it must be inherited from the parents. The X-Gene would be a theoretical example of these "hereditary mutations." Some mutations can occur after birth, but only in certain cells of the body. These are called "acquired mutations," and they are caused by environmental factors, such as radiation (which will be discussed later; US National Library of Medicine, 2017).

So, while some X-Men qualities just aren't attainable in the confines of genetics (e.g. Professor X's ability to read minds), others aren't completely out of the realm of possibilities.

¹² Psychic-type powers, like mind reading or levitation.

Wolverine and Deadpool both have what's called a "Healing Factor," which is essentially an incredible healing ability that goes so far as regeneration. This ability, although incredibly convenient in the plotline of a comic book, seems too good to be true in the real world. Research on the Lin28a gene may have something different to say.

Younger organisms have enhanced tissue repair compared to their older counterparts. Part of this is attributed to Lin28a, which is expressed during embryogenesis (formation of the embryo) and has roles in development, among other things. When Lin28a is reactivated in adult mice it can accelerate the regrowth of hair follicles, cartilage, and even bone. This research may suggest that Lin28a, in combination with other factors, exhibits a mammalian ability to regenerate (Shyh-Chang et al., 2013). Don't expect this tissue repair to be quite the same as Deadpool re-growing his entire arm, or Wolverine pushing bullets out of his chest, but it's at least something.

There is also a genetic element to strength, speed, and endurance, all of which play vital roles in crime fighting. Two gene variants have consistently been associated with superior performance in endurance (ACE I/I) and power-related (ACE D/D, and ACTN3 R577X) activities. However, although these genes show the strongest relationship with athletic performance, they aren't completely predictive of success. Other factors, such as training or injury susceptibility, still largely affect the ability to achieve elite athletic status (Guth & Roth, 2013). In short, good genes may make you stronger, but they won't give you superhuman strength.

Another real-world example of how genetics could at least make one *look* like a member of the X-Men would be some of the rare and interesting genetic disorders that have been recorded in humans. One of these is hypertrichosis, which is characterized by an excess growth

of hair on any part of the body. A person suffering from hypertrichosis may be covered in hair on parts of the body where hair is typically not present (in some cases, the person may have an entire face covered in hair; Trüeb, 2002). On the X-Men team, the character Beast is an intelligent geneticist with a body covered in hair.

In other cases, humans have been born with “vestigial tails” (Mukhopadhyay, 2012), which are non-functioning tail-like structures. The character, Nightcrawler, is an example of a mutant in the comic book world who also has a tail. If you’re a seasoned fan of the X-Men franchise, then you may have noticed that both Beast and Nightcrawler are blue. People can’t be blue, can they? Actually, yes they can. A person’s skin can turn blue for a couple several reasons. One reason is a rare condition called Argyria, which is associated with chronic exposure to silver (Wadhera & Fung, 2005). Cyanosis is also a condition that can cause a bluish tinge to appear on the skin, although instead of silver exposure, it is caused by deoxygenation of hemoglobin. In other words, there is less oxygen being transported in a person’s blood (McMullen & Patrick, 2013). Methemoglobinemia is a condition which can cause cyanosis, among other things, and can be genetically inherited. The most famous case of this, was seen in the Fugate family, who lived in Kentucky (Phillips, Vantanchi, & Glick, 2017).

Likely, if you have a genetic abnormality that would make you an X-Men, you’ve probably already noticed it. Otherwise, you’ve already missed your window to be born with your powers. Sorry to break it to you!

FINAL FIGURE: Your chance of being an X-Man is 0, unless you’ve already noticed something different... in which case, what are you waiting for? Go grab your super suit!

Freak Accidents

If the first three options seem too unlikely, then maybe you'd rather be involved in some sort of freak accident. Many superhero origin stories don't start with wealth or with good genes, but the idea that one day a good person happens to be in the "right place at the right time." From radiation, to chemicals, to lightning, these stories often involve a painful transition that is propelled by the wildest stretching of scientific phenomena. With some grounding in science, and a lot of grounding in science fiction, these stories have convinced the public for years that, under the right conditions, anyone can become a superhero. This section aims to separate fiction from fact and will test the likelihood of these origin stories actually working out in the hero's favor.

Bitten by a Radioactive Spider:

To follow Spider-Man's origin (minus the death of Uncle Ben), you would have to be bitten by a radioactive spider to become a superhero. Now, you should already be able to guess that the odds of becoming a superhero are low based on this method, however, let's investigate just how low those odds may be.

First, let's consider the spider itself, pre-radioactivity. It would have to be a very specific type of spider, because not all spiders have the ability to bite humans. Many species have "fangs" that are essentially too small or too wimpy to pierce human skin (Foelix, 2011). In the U.S. and Canada, there are over 4,000 species of spiders ("Spiders of North America," n.d) however, only about 50 to 60 of them have reportedly bitten a human (Wong, Hughes, & Voorhees, 1987).

So, on the small chance that you run into a spider that has the *potential* to bite humans, you would probably have to really irritate it in order to start the chain of events to become

Spider-Man. Spiders, even infamous ones like the Brown Recluse, are usually scared of people, and have no reason to go out of their way to bite them. This is the same logic that prevents humans from running over to a lion to bite it. In fact, spider bites are less common than people believe. One study in Southern California found that out of 182 patients reporting a spider bite, only about 3.8 percent of the cases proved to be actual spider bites. In fact, 85.7 percent had some sort of infection instead, such as MRSA¹³ (Suchard, 2011).

Alright, you found a spider that could bite humans, and you made it mad. For the sake of brevity, let's assume it happens to be radioactive as well (because why not?). How much radiation would you be exposed to, and is it enough to do anything?

A spider bite with radioactive venom could contain about 0.00003 millisieverts (mSv) of radiation (Waldman, 2012). To put that into perspective, here's a list of things in our life that would be more radioactive than Peter Parker's famous spider (According to data from the US Environmental Protection Agency and the Center for Disease Control and Prevention, unless otherwise stated):

- Medical scans (0.1 mSv for a chest X-Ray, up to 10 mSv for a whole-body CT)
- Smoking cigarettes (80 mSv annually, if you smoke 1.5 packs a day; Winters and Franza, 1982)
- Traveling by plane (0.035 mSv)
- Radon in the average US Home (2.28 mSv annually)
- Eating a banana (Potassium-40 is radioactive, 0.0001 mSv)

This all suggests that we are exposed to radiation at some point, and that tiny amounts don't kill us or make us superheroes. Just ask anyone who has eaten a banana and lived to tell the

¹³Short for Methicillin-resistant Staphylococcus aureus, which is a common bacterial infection that can look like a swollen red bump or lesion.

tale. However, radiation in large doses can influence the human body. But how much radiation is too much, and how much is just enough to help us climb walls?

According to the EPA, an acute (one-time) exposure of 750 mSv can cause radiation sickness, but there are some differences depending on age and sex. When radiation sickness occurs, it indicates that irreversible damage may have been done to the body (National Organization for Rare Disorders, 2011). In order to become a superhero, this damage would have to work in your favor, and mutate your genes in a way that would give you superpowers. However, while radiation *does* have the ability to alter your genes, it doesn't necessarily do so in beneficial ways. As Dr. Courtney Griffin, a Medical Research Foundation scientist, once said, "Radiation mutates randomly and could affect any of your 20,000 genes, so instead of superpowers, you might end up with cancer." With that in mind, she added, "Mutations are unpredictable, and altered DNA might turn on, or turn off, some mechanism that is important to how your body functions. It all depends on where and when the mutation occurs. In this case, it would take multiple bites, and every cell would have to mutate in exactly the same way" (Oklahoman, 2014).

So, to get about 750 mSv of radiation in your system, you'd have to be bitten about 250,000,000 times, and get incredible lucky. Otherwise, preserve your poor skin and simply eat 7,500,000 bananas in one sitting. Hey, no one said being a superhero was easy.

In short, if you are walking by a nuclear plant that had a meltdown, and found a horde of radioactive spiders that have the ability and will to bite a human, and you get bitten in such that a very specific set of your 20,000 genes mutate simultaneously in all of your 30 trillion cells (Sender, Fuchs, & Milo, 2016) in a way that is ultimately beneficial -- then maybe... just maybe you have a shot at being a little bit closer to Spider-Man.

FINAL FIGURE: I won't say you don't have a chance, but you probably don't have a chance.

Struck by Lightning:

In the most famous origin story of the Flash¹⁴, a man named Barry Allen receives his powers when he is struck by lightning while at work. In this freak accident, he somehow manages to get himself covered in the exact blend of chemicals necessary to give him super speed when activated by lightning.

According to National Geographic, your odds of getting struck by lightning at some point in your lifetime are about 1 in 3,000. Although these are the best odds so far, lightning is also incredibly dangerous, and can kill about 10% of victims (National Geographic News, 2005). So even if you douse yourself with the perfect concoction of chemicals, there is no guarantee that you'll make it out alive.

FINAL FIGURE: If you happen to have the right chemicals on hand, about 0.0003¹⁵ chance.

Raised by Condors?

Young Richard Grey was orphaned when a group of bandits attacked and killed his archaeologist family. Amazingly, a family of condors (a type of vulture) adopted the young boy as one of their own. By studying his "family" Richard somehow figured out how to fly himself.

¹⁴ Jay Garrick, the original Flash, accidentally knocked over a beaker when smoking a cigarette in a lab, and inhaled fumes from an experiment on "hard water." The funny thing about this is that hard water is just mineral-enriched water, meaning the vapor that Jay inhaled was just steam. If this had actual scientific merit, then we could all be the Flash after taking a hot shower. Jay's story was later changed to make it "heavy" water, which is used in nuclear power plants as a way to *slow down* neutrons. (Dangerous Water, 2005)

¹⁵ 1 in 3,000, adjusted for the 10% who wouldn't make it.

(If only the Wright Brothers had been adopted by condors!). He then becomes a Superhero named Black Condor (Crack Comics #1, 1940).

Part of this story has some merit. There are some instances of children who get “adopted” by wild animals; these children are usually referred to as feral children. Many species of animals have raised a feral child, including but not limited to wolves, bears, leopards, monkeys, and gazelles. There has even been reports that a boy learned to communicate with birds after his mother neglected him and left him in a room full of caged birds¹⁶. The boy began chirping and moving his arms in a way similar to the way birds winnow wings (Keith, 2008).

Although many feral children adopt the behavior of the animals that were present during their development (like walking on all fours, or communicating with similar noises), this does not mean that humans can acquire abilities outside the limitations of their human body. Humans are not capable of flight without assistance, and nothing about the way we are raised will change that. People do not have wings, hollow bones, or an aerodynamic form -- the adaptations that help birds to fly (Gauthier & Padian, 1989). This plays into the famous “Nature vs. Nurture” debate, because even if you are raised by condors, you still cannot fly.

FINAL FIGURE: The probability of being raised by condors and learning to fly is 0, unless you yourself are a condor.

¹⁶ Although this has been admittedly hard to fact check.

AND THE FINAL VERDICT IS...

Your probability of becoming a superhero would be about 0.03002947422%. All in all, a pretty tiny chance¹⁷. So tiny, in fact, here is a list of things that are more likely to happen to you (Galvis, 2016):

- Being audited (1 in 119, ~0.84%)
- Writing a *New York Times* bestseller, if you're published (1 in 220, ~0.45%)
- Catching a foul ball at a baseball game (1 in 563, ~0.18%)
- Becoming an astronaut (1 in 2,300, ~0.04%)

But hey, it's also more likely than going to the ER with a pogo stick related injury (1 in 115,300), so take your wins where you can get them, and don't let this discourage you. Being a hero is not solely based on the powers and the cape, but rather the will to stand up and do good in the world. In Christopher Nolan's movie *The Dark Knight* (2008), Batman tells Commissioner Jim Gordon, "A hero can be anyone, even a man doing something as simple and reassuring as putting a coat around a little boy's shoulder to let him know that the world hadn't ended."

¹⁷ $0.000002947422 + 0 + 0 + 0.0003 + 0 = 0.0003002947422$, converted to percentage.

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Chapter 3

Superheroism: It Builds Character

“Being the best you can be, that’s doable. That’s possible for anybody if they put their mind to it.”

-Captain Marvel (Carol Danvers)
Ms. Marvel Vol. 2 #50

Before you read this chapter, take a moment to think about what a superhero looks like... How do they act? What kind of person are they? What character traits do they possess that make them seem so—heroic?

In a TEDx Talk, superhero creator Stan Lee suggested that superheroes are so inspiring because people are “always looking for something that represents the ideal person or the ideal situation.” In his opinion, superheroes provided that “something” by representing what we consider to be ideal attributes, and handling situations in the most ideal ways.

In many facets of literature, religion, psychology¹⁸, and pop culture there is something called a hero archetype. An archetype refers to a “typical” example of something¹⁹, so the hero archetype is simply a series of themes and characteristics that delineate the typical hero. There are several types of heroes, including classical, everyman, tragic, epic, anti, and super heroes. Although each have different circumstances, abilities, and fates, they all have similar traits. In literature, the hero is the protagonist, often admired or idealized for having noble qualities (Ray, 2015). These exceptional qualities help turn a hero into that “ideal person” that is such an

¹⁸ Carl Jung, an influential early psychologist, wrote a lot of the various archetypes, including the hero archetype.

¹⁹ Although some people with literary or religious studies backgrounds may say that an archetype is an original that has been repeatedly imitated.

inspiration to us. But what exactly *are* the qualities that make up an “ideal person,” and do superheroes fit the mold?

A series of three studies by Cottrell, Neuberg, and Li (2007) sought to uncover the value of different characteristics. One of these studies specifically asked participants to “create an ideal person.” To do this, participants rated attributes that fell into thirteen different trait categories of which, seven were found to be significant²⁰:

1. Trustworthiness
2. Cooperativeness
3. Agreeableness
4. Extraversion
5. Emotional stability
6. Intelligence
7. Physical health.

Of these, trustworthiness was one of the most highly rated (we will dive into why this may be later in this chapter). One thing of interest in this study was the addition of the Big Five personality traits as categories for creating an ideal person. The Big Five personality traits were created several decades ago to categorize the elements of personality in a statistically valid way.

The five traits are:

1. Extraversion - If someone is high in extraversion, you would expect them to be an energetic, loquacious, passionate, and adventurous person. Someone low in extraversion could be considered quiet, serious, and modest.

²⁰ Found to be non-significant, the other 6 categories were conscientiousness, open-mindedness, predictability, attractiveness, similarity, and assertiveness.

2. Agreeableness - A highly agreeable person would be someone who is trustworthy, generous, cooperative, patient, and kind. A person with low agreeableness would be vindictive, irritable, bitter, or distrustful.
3. Conscientiousness - Conscientious individuals are predictable, sophisticated, reliable, mature, or spiritual. Low conscientiousness is related to a person being negligent, impolite, or self-indulgent.
4. Neuroticism/ Emotional Stability - People high in neuroticism are nervous, oversensitive, dependent, and have higher anxiety. The opposite of neuroticism, emotional stability, is marked by being tough, confident, candid, and stern.
5. Openness to Experience - Initially referred to as intellect, those who are open to experiences are wise, curious, logical, meditative, and artistic. Those who are not high in openness tend to be simplistic or narrow minded (Goldberg, 1990).

So, if you notice, in the seven categories that were important for the ideal person, trustworthiness and cooperativeness both fit into the Big Five category of agreeableness. This means that agreeableness encompassed three of the seven important categories for the ideal person. Because of this, let's test the claim that superheroes are "ideal people" by first looking to see if they are agreeable people.

Agreeableness

One of the first studies to empirically examine the "likeableness" of different personality traits was conducted by Norman Anderson in 1968. Of the 555 personality traits meticulously hand-picked by Anderson himself, the top ten were sincere, honest, understanding, loyal, truthful, trustworthy, intelligent, dependable, open-minded, and thoughtful. It may not be

coincidental that six of these ten words happen to fall into the trait category of agreeableness (sincere, honest, understanding, loyal, truthful, trustworthy). Notice that there is a focus on the element of trustworthiness, which we also saw in the ideal person study by Cottrell, Neuberg, and Li (2007). So, before we talk about agreeableness in general, I'm going to focus on the aspect of agreeableness related to being a trustworthy person.

Trust is understandably important to humans, since we are social creatures (Kurzban & Neuberg, 2005). To explain *why* trust is important, we could consult a branch of psychology known as evolutionary psychology. This branch uses clues from the past to theorize why certain human traits, behaviors, or physical features came to be. Consider life as an early human. It is advantageous to live in a social setting; not only does it increase an individual's access to certain resources (food, shelter), but it also provides support for certain goals. The act of socializing is itself likely to be rewarding, because humans who were more social may have been more likely to form cohesive groups, and therefore more likely to survive. But however beneficial socialization may be, there are potential costs to group life. By associating with people, a human increases their risk of getting sick, physically harmed, robbed, or taken advantage of in other ways (Alexander, 1974). This is where trust comes into play; an individual must learn to only cooperate with another person if there is a high probability that that person will return the favor. Although no one can perfectly predict whether the favor will be returned, they can determine whether that person *seems* trustworthy and therefore, less likely to take advantage of you.

Let's say you are brought into a research lab and told that you get to play a game involving trust. In this game, you and a partner are given a set amount of money and told that you can either pass it to your partner or keep it for yourself. If the money is passed by both parties, it gets doubled, but if your partner chooses not to pass, your partner gets to keep it all.

Therefore, the game is set up so that cooperation from both players leads to potential gains, but non-cooperation becomes a major risk for the participant²¹. After explaining the game, the researcher lets you pick your fellow player from three possibilities, and that not all the partners were equally trustworthy. How would you pick your partner?

A study by Krumhuber and colleagues (2007) investigated this exact situation. To help the participants make their decisions, they were shown a video of each potential partner. One of the potential partners would flash an authentic smile, another would flash a fake smile, and the third partner maintained a neutral expression. The researchers used realistic facial animations to handcraft the perfect “authentic” and “fake” smile. Although the differences in smiles were subtle²², they significantly influenced the partner choice. The authentic smiler was rated to be more likeable, more attractive, and more trustworthy than the other two. Participants were also more likely to choose the authentic smile partner (60%) than the fake smile (33.3%) or non-expressive (6.25%) partner. This further suggests that trust is so important to us, since we tend to assess things as small as facial dynamics to make decisions related to trust. In some cases, we don’t even realize that we are analyzing things as carefully as we are, since we process information so quickly. This research also reiterates the idea that likability and trustworthiness are related, since the most likable person (the genuine smiler) was also the one who was trusted more by participants.

So, clearly, trust is so important that people learn to judge it based on cues as subtle as a smile. In comic books, you can’t watch a superhero’s smile to determine authenticity, but you

²¹ This is similar to the premise of the “Prisoner’s Dilemma” or the British TV Show, *Golden Balls*.

²² The authentic and fake smiles differed in onset duration (length of time from start of smile until maximum intensity), apex duration (length of time maintaining maximum), and offset duration (length of time from maximum intensity to end of smile). In short, authentic smiles take longer to build and disappear, and fake smiles stay at “peak smile” for longer.

can judge the hero's behavior for signs of trustworthiness. There are two types of "trust-warranting" signs, dispositional and contextual. Dispositional signs are displayed in an individual's qualities, for example, how knowledgeable is he or she? Does that person seem honest? When following dispositional signs, we are considering a person's character above all else. Contextual signs have to do with our interactions with said individuals, for example what situation requires trust? What is the individual's role in said situation? When following contextual signs, we are considering the elements of the situation above all else (Branzei, Vertinsky, & Camp, 2007).

Superheroes display dispositional signs of trust because you can judge their character through their actions in their story arc. You can see that they always tell the truth and follow up on their promises. Superheroes also display contextual signs of trustworthiness, because they have a role in situations as the *hero*, which automatically puts them in a position to be trusted. Otherwise who would save all of the civilians?

In the world of comic books, the civilians must trust their respective superhero, because their lives are in the balance, but for the comic book readers, or moviegoers, why would this trust be so important? Trust seems to only apply to people who we have relations with, or have to depend on in some way, like a significant other, a family member, or an employee.

You may find yourself sitting there wondering whether trust is actually important in our fictional superheroes. Unsurprisingly, no research has been done on trust and superheroes; however, we can draw some analogs from other studies. In their third study, Cottrell, Neuberg, and Li (2007) investigated the importance of different traits among an assortment of social goals and situations. Participants were asked to choose ideal traits for a romantic partner, employee, casual acquaintance, and a stranger at a bus stop. Additionally, they picked traits for members of

their basketball team, project team, sorority/fraternity, and family. Trustworthiness was either prioritized or greatly valued for every condition, even for the person waiting at a bus stop. None of the other 9 traits showed the same consistency across the board.

These results suggest that we hold others accountable for maintaining certain principles, even when those people have a trivial effect on our own lives. Regardless of the relationship we hold with someone, we desire honesty, dependability, and loyalty. It's not too large of a step to propose that one of the reasons we like superheroes so much is because they are trustworthy. After all, why would we like superheroes if they didn't even live up to the expectations that we have for a stranger at a bus stop?

Superman, known for his Boy Scout honor²³, is a famously trustworthy guy. In his 1978 movie, he even tells his love interest, Lois Lane, "I never lie," and upholds that principle in most of his incarnations (Superman, 1978). Truthfulness has been a longstanding mantra for Superman. Even when Superman first debuted on a screen in the Max Fleischer cartoons (1941-1943), each episode assured the audience that the hero fought "a never-ending battle for truth and justice" (Lundegaard, 2006).

This saying has also changed to reflect the times, but the elements of truth and justice have always remained constant. After World War Two, the saying changed to become "truth, tolerance, and justice" and then later became "truth, justice, and the American way" in the Cold War era of the 1950s (although it had appeared and disappeared briefly in the early 1940s). After its appearance in the 1978 Superman movie, the "American way" addition was omitted; Superman returned to fight for "Truth... or Justice. Well, truth and justice. That sounds good"

²³ He was previously a boy scout a few comics.

(Lois & Clark, 1993). Then again in *Superman Returns* (2006), he fought for “Truth, justice, and... all that stuff.”

Extraversion

Another important Big Five personality trait is extraversion. As I mentioned earlier, extraversion relates to traits that we attribute to “social butterflies.” On the opposite end of the spectrum, introversion describes to traits that we attribute to wallflowers. Although some people favor extraversion over introversion, both ends of the spectrum have pros and cons. For example, although extraversion includes positive traits such as being outgoing and playful, it also includes less favorable aspects such as vanity and indiscretion. Introversion relates to positive traits such as humility and demureness but is also associated with lethargy and a lack of humor (Goldberg, 1990).

Superheroes are dispersed on both ends of the extraversion spectrum. Some heroes are remarkably chatty, such as the Flash and Iron Man. Although all versions of the Flash have the power to run at super speeds, some seem to run their mouth at the same rate. This makes the Flash an excellent example of an extrovert, given the elevated levels of energy and sociability. Wally West, one of the Flash incarnations, is usually a character of comic relief; he has a fine-tuned sense of humor and a lack of shame about saying how he feels. Additionally, the Flash values friendship, whether it’s his connection to other members of the Justice League, or to Team Flash and its allies.

Other superheroes tend to keep to themselves, such as Bruce Banner and Batman. Bruce Banner constantly struggles against the emergence of his alter ego, the Incredible Hulk. He is an extraordinarily intelligent scientist, but keeps a distance from others, and seeks out the quiet

when he can. In his case, this introversion is partially due to the unpredictability of his Hulk transformations, and his desire not to lose control and hurt others. His Jekyll and Hyde persona has turned him into a very serious person; Banner even admits, “All right, so I'm not the wisecracking super-type, like Spider-Man! Gamma rays gave me muscles, not a sense of humor” (Incredible Hulk Annual, 1983).

Even though there is variety in the level of extroversion and introversion displayed by superheroes, all superheroes tend to show one extroverted trait -- bravery. Yes, bravery is associated with extroversion (Goldberg, 1990); this makes sense if you think about the confidence and assertiveness that comes with having higher extroversion. Bravery is a defining feature of heroism, so much so that dictionaries include heroism as a synonym of bravery (and vice versa). Because of that connection, it's extraordinarily rare to see a hero who is cowardly.²⁴ Even the most introverted superheroes don't hesitate to step forward into battle, and fight for the good of all. Perhaps this element of bravery is part of the formula for that “ideal” superhero that is so inspiring to others.

First, let's develop a clear picture as to what exactly is bravery. Merriam-Webster defines bravery as, “the quality or state of having or showing mental or moral strength to face danger, fear, or difficulty.” If we choose to define bravery with fewer “or”s, we could say bravery is the possession of a non-physical strength in the face of adversity.

Bravery is fulfilling and morally valued (Peterson & Seligman, 2004) and since not everyone is born with it, people have dedicated a lot of time to figuring out how to have more of it. A type of Buddhist practice, Tonglen practice, teaches a special type of meditation that is based on breathing techniques. In this practice, one breathes in fear and anxiety, and breathes out

²⁴One of the few examples I could think of would be Scooby Doo and Shaggy. Although they are not superheroes, they manage to save the day while fearfully running away from their foes.

bravery and kindness (Peterson & Seligman, 2004). Myriads of psychology self-help books also exist for this purpose; some provide evidenced techniques, others tell inspiring stories to motivate the readers to cultivate bravery.

In some groups of people²⁵, a strong value system, self-confidence, and optimism were all associated with higher levels of bravery (Finfgeld, 1999). Additionally, the presence of bravery in a person's social group can encourage bravery. In the superhero setting, we see our heroes buddy up into crime fighting groups, such as the X-Men, Teen Titans, Avengers, or the Justice League. In some cases, this allows the characters to feed off the bravery of their comrades, even when they themselves are nervous to proceed. One example of this appears in the movie, *The Avengers: Age of Ultron* (2015). The villain, Ultron, has lifted an entire city out of the ground, with the Avengers and innocent civilians floating high up in the sky. Ultron is planning to crash the city down into the Earth. Chaos is ensuing, and Hawkeye runs with the Scarlet Witch into a building for cover while Ultron's robots attack outside. Being a contributor in the disaster, the Scarlet Witch is upset, and Hawkeye tells her, "Doesn't matter what you did, or what you were. If you go out there, you fight, and you fight to kill. Stay in here, you're good. I'll send your brother to come find you. But if you step out that door, you are an Avenger." He then takes a moment to gather himself, readies his bow and arrows, and then re-emerges from the house, leaving the Scarlet Witch with the choice to decide to be brave. Encouraged by the words of Hawkeye, she emerges from the house, and helps to save the day.

Just like the Scarlet Witch was stirred into action by the words of Hawkeye, everyday people can be stirred into bravery by the environment around them. Whether you were born naturally fearless or cowardly, each of us has the potential to be brave in the face of adversity.

²⁵ In the study cited, the researchers studied a group of people who were terminally ill.

Unfortunately, people are often blind to their own personal strengths because they dismiss their best attributes as something that is ‘ordinary,’ instead of ‘extraordinary.’ Many people possess a lack of insight into their own strength, something known as a psychological blind spot. Courage is one of those personal strengths that tend to fall to the wayside. Even in the most courageous, confident people, this quality tends to be downplayed (Biswas-Diener, Kashan, & Minhas, 2011). Even superheroes rarely go around talking about how brave they are. In fact, many heroes (and superheroes) tend to pass off their heroic deeds as actions that “anyone else would do in the situation.”

That means that deep within ourselves, we may have the capacity to be braver than we ever expected, and stronger in the face of adversity than we credit ourselves for. There is a saying that, “There is a superhero inside all of us. We just need the courage to put on a cape.”²⁶

Conclusion

Dr. Strange once said, “Faith is my Sword. Truth is my shield. Knowledge my armor” (Shadows and Light Vol 1 #2, 1998). This quote honors conscientiousness, agreeableness, and openness to experience. As the warrior requires the full set of armor to fight, the superhero requires a full set of personality traits to be heroic. With a little introspection, you may be able to identify some of these traits within yourself, and use them to coax out your inner superhero.

²⁶ From an unknown source.

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Comic Books

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Chapter 4

Sympathy for the Devil

“I found The Joker’s psyche disturbing, his dementia alarming — and his charm irresistible!”
-Harley Quinn (Batman: Harley Quinn, 1999)

The principles of Yin and Yang suggest that everything in the world exists as inseparable and complementary opposites. There is no shadow without a source of light, and no activity without rest. Yin represents the moon and darkness, while Yang represents the sun and light. Although some may say that one is better than the other, the purpose of Yin Yang is to illustrate that there is a balance to everything, and that both sides are necessary (Cartwright, 2012). Some may say that the role of the superhero and the supervillain reflect Yin and Yang, such that neither one can operate in a world without the other. Many superhero tales play up this idea: as long as supervillains exist, a superhero will always rise up against them, or vice versa. Some heroes and villains, such as Batman and the Joker, seem locked in opposition to each other. In the *Dark Knight* movie (2008), the Joker suggests, “This is what happens when an unstoppable force meets an immovable object. You are truly incorruptible, aren’t you? Huh? You won’t kill me out of some misplaced sense of self-righteousness. And I won’t kill you because you’re just too much fun. I think you and I are destined to do this forever.”

Superhero stories rely on their supervillains to provide conflict and plot line, and without them comic books wouldn’t have lasted past the Great Depression. Nobody wants to watch Iron Man fight the IRS or the Hulk’s battle to find the perfect pair of stretchy pants. We want to watch good guys beat up bad guys with lots of ‘POW’ and ‘BOOM’ and ‘BANG.’²⁷

²⁷ And we will discuss this love of all things that go “boom” and “pow” in Chapter 6

In certain works of fiction, the villain's main purpose is not to be a self-standing character, but rather an accent piece to the hero -- a way to show off how heroic the said hero truly is (e.g. General Zod in *Superman II*, 1980). These types of villains are essentially glorified punching bags with little backstory and little ability to make an impression on the audience. In cases such as these, it is hard to justify why people would like villains. Naturally, you would suspect that most people would *hate* villains, due to their often corrupt behavior and misdeeds.

But the villains in our movies and literature seem to warrant a different type of attention than the perceived "villains" of the real world. It would be unusual to make movies about people you don't like. You wouldn't wear Halloween costumes based on that old high school bully or draw fan art about your local robber. So why do people do these things for supervillains?

The truth is—there are some villains we love to hate but also some we love to love. The comic-turned-movie, *Suicide Squad* (2016) focused on the infamous DC villains banding together, but still earned over \$745 million in the box office, plus merchandise sales. Without a hero in sight, the sole appeal to the story arc was the villains.

The popularity of villainy is not just prevalent in comic books, either. Darth Vader, for example, who is one of the most iconic characters of the entire Star Wars franchise, despite killing thousands and blowing up a planet. The Wicked Witch of the West is another iconic villain, despite having little to no redeeming qualities, and remaining evil to the day she melted,²⁸ fans everywhere tried out their best witchy voice, and cooed "I'll get you, my pretty, and your little dog too!"

²⁸ The book-turned-musical, *Wicked*, changed the perception of the Wicked Witch, giving her a compelling and interesting backstory (and a set of songs that resonate in the ears of any theatre enthusiast). Though not exactly a part of the superhero genre, the *Wicked* craze that ensued after the musical became popular is just another example of our obsession with villains.

It's not just villains gaining popularity, either. Antiheroes, protagonists that do not display traditional hero attributes, are also getting time in the spotlight. These characters are prone to walking the fine line of heroism and villainy, making them points of interest to the audience, since you never quite know what they are going to do next. Deadpool, one of the more famous antiheroes, once found a girl standing on a ledge and convinced her that he could take her out to see the musical, *Hamilton* (never mind the fact that he stole the tickets). In a humorous but touching story arc, he takes the girl around town to beat up criminals (and one elderly lady who was in the wrong place at the wrong time), then they ride on a stolen motorcycle. Ultimately, Deadpool manages to convince her to seek help for her suicidal tendencies and walks with her into the hospital, where he had already alerted the nurses to her arrival (Deadpool #20, 2016).

There could be a plethora of reasons for the rising popularity of antiheroes and villains, one of which could be because these character parts are written with more three-dimensionality than ever before. In classic portrayals, villains can feel like a plot device to create conflict; we don't see "honorable" traits such as compassion or humor. Modern portrayals of villains exist on an entirely different level: they have compelling backstories, one-liners, interesting personalities, and sometimes even a killer fashion sense. With all these good things going for them, it's no wonder we find them more entertaining than ever. But a well-written script and snazzy costumes aren't all there is to it, and this chapter seeks to further investigate what's causing audiences to admire the dark side, and whether this new trend is a damaging one.

Standing in the Shadow

One theory of why evil can be attractive comes from 20th century psychiatrist Carl Jung. Jung is considered to be one of the founders of the classic psychoanalytic school of thought (with

Freud being another honored founder). Although it is important to remember that many aspects of psychoanalysis have not withstood the test of time, the psychoanalytic school of thought produced fascinating philosophies that made incredible and important contributions to the field of psychology. This section on Jung is less about empirical evidence and more about a historically interesting theory about the psyche.

Simply put, psychoanalytic theories suggest that your mind is built out of a conscious and a subconscious. One of Jung's theories begins when children notice that certain behaviors elicit negative responses from their family and peers; aggressiveness, impulsivity, and certain personality traits may be met with reproach. The child learns that these displays are "bad" and pushes these aspects of himself or herself into the subconscious. Eventually, all of these repressed emotions and traits coagulate into the "shadow." The shadow represents a part of the psyche that is more animalistic (Boeree, 2006), which makes it in some ways similar to the id in Freud's theory.

Diverging from psychology and superheroes, let's take a moment to look at the history and literature in Jung's time. Jung lived in the aftermath of Stevenson's famous novel *The Strange Case of Dr. Jekyll and Mr. Hyde*. This novel was written towards the end of the Victorian Era, a time where advancement in science and technology began to butt heads with social differences and deep-seated religious ties (Shepard, 2001). During this time, we saw a reemergence of the discussion of the duality of man—a philosophical idea that existed since Plato's time. Stevenson's book reflects his era's conflict between god and science, and additionally provides a parallel of man's two contrasting sides. The protagonist, Dr. Jekyll, is a respected doctor who seeks to remove the darker parts of his soul. His experiments transform him into Mr. Hyde, a disfigured and twisted man who embodies all of Dr. Jekyll's evil. Dr.

Jekyll transitions frequently between himself and Mr. Hyde, finding comfort in Mr. Hyde as an outlet for his dark side. Dr. Jekyll writes, “I learned to recognize the thorough and primitive duality of man; I saw that, of the two natures that contended in the field of my consciousness, even if I could rightly be said to be either, it was only because I was radically both.”

Eventually, Mr. Hyde becomes murderous, and Dr. Jekyll finds he is no longer able to monitor when this alter ego arises within him. Desperate to regain control, Dr. Jekyll attempts to concoct stronger serums to allow him to change back, until one day, Mr. Hyde fully envelops Dr. Jekyll. The book ends in Mr. Hyde’s suicide, a final attempt to put an end to the evil.

Given the fact that Jung grew up in this time of questioning the duality of man, we can wonder if Jung was inspired by his time period’s debate, and the writings of Stevenson. Jung described the mind much like Stevenson described the well-mannered Dr. Jekyll and animalistic Mr. Hyde. To Jung, societal obligations forced people to present their own Dr. Jekyll persona, and push aspects of themselves that were Hyde-ish into the subconscious—which became the shadow. This separation, while appearing proper on the surface, could distress the person psychologically. Jung believed that in order to remain mentally sound, certain aspects of the shadow needed to be exhumed from the unconscious back into the conscious. This would lead to an overall acceptance that people are neither wholly good or wholly evil, but somewhere in-between (Boeree, 2006).

Bringing the subject *all the way back* to why we like supervillains, what would Carl Jung have to say about why we like characters like the Joker, or Magneto, or Lex Luthor? Maybe he would suggest that in the modern day, an attachment to villainous characters may be a result of coming to terms with aspects of the shadow self. Instead of pushing down those dark thoughts into the subconscious, people may identify with a villain. Therefore, they get an opportunity to

let out those shadow feelings vicariously. After all, it's more acceptable to *like* a villain than it is to *behave* like one. Consider how you would treat a real life serial killer, compared to how you would treat a fan of the show Dexter²⁹.

Hot Stuff

A Greek philosopher and poet, Sappho once stated “what is beautiful is good.” Social psychologists have taken this principle and run with it, extending its implications to a variety of “good” character traits. Studies suggest that people tend to make a lot of assumptions about others, based entirely on their physical appearance. For example, beautiful people are perceived to be more intelligent (Talamas, Mavor, & Perrett, 2016) and more likable³⁰. It's no stretch to say that superheroes are often attractive because it encourages the attribution of positive characteristics before the superhero even saves the day.

Conversely, there exists an alternative to “what is beautiful is good,” an idea known as “disfigurement is bad.” This less researched principle suggests that when people have even minor disfigurements, they are more likely to be victim to negative social reactions, such as stares, startle, whispers, laughter, ridicule, and avoidance (Macgregor, 1990)³¹. These responses get played up a lot in classic Hollywood movies or in cartoons, where the villain is often distorted in some way, to elicit that startle response or make the audience uncomfortable. Imagine a witch with her crooked nose, or a thug with leftover scars; notice how these types of

²⁹ Dexter (2006-2013) is about a forensic expert turned serial killer who chooses other serial killers as his victims.

³⁰ Some research suggests a relationship in the opposite direction as well, where displaying these positive traits increases how attractive you appear to others. Basically, if you're rude to the waitress on your date, you might have jumped from hot to not.

³¹ And such reactions have the potential to cause psychological distress to a person with facial disfigurement

features rarely appear on the protagonist, just the villain. Comic book villains, such as Killer Croc, Finn Cooley, and Penguin, also fall victim to this trope.

Two-Face, who is disfigured on one side of his face and handsome on the other, embodies an odd juxtaposition found in comic book villains—that the attractiveness scale for villains is almost polarized. Some villains are quite easy on the eyes (e.g., Talia al Ghul) and others are repulsive to look at (e.g., New 52 Joker, who cut off his own face). So why does attractiveness matter in villains?

From a marketing angle, a villain is harder to sell than a hero, so it makes sense to employ certain techniques to maximize how much a character appeals to the audience. One technique involves designing the villain's appearance to elicit a reaction. Having a villain with their skin peeling off can be disturbing to the audience, and this “horror approach” makes that villain more memorable. On the opposite end of the spectrum, we know that sex sells, so if the villain has a boosted sex appeal, then they are going to be better received. Take Batman’s nemesis, Poison Ivy, for example; she has stunning good looks to aid her devious ways. Her entire character is built to ooze seduction, and that formula worked well to give her a place among the iconic Batman villains.

Applying the “what is beautiful is good” idea, maybe how we perceive villains is affected by whether we think they’re attractive. But to what extent? And is a pretty face really enough to forgive all of a character's misdeeds?

Enter the “Attraction-Leniency Effect.” This combination of social psychology theory and criminal justice research suggests that physical appearance may in fact play a role in deciding punishment. When psychology laboratories attempt to test this hypothesis in mock legal settings, they recognize that a lot of factors could potentially affect whether a juror found an

alleged criminal to be guilty. To control for these “extraneous variables,” the psychologists try to create a situation where everything is the same between mock trials, except for the attractiveness of the person “on trial.” One example of this type of research would be a study where researchers distributed a survey to the participants asking questions about whether character or attractiveness should be involved in juror decision. Afterwards, participants were given a folder of information which included a photograph of the defendant and asked to play the role of juror. Half of the photographs were of an attractive person of the opposite-sex, while the other half were of an unattractive person of the opposite-sex. This study found that those who were given the more attractive photograph were more likely to give a lighter sentence, despite the fact that 93% of survey respondents said that physical attractiveness should play no role in legal decisions (Efran, 1974).

Although the control exhibited in a psychological research lab is helpful for isolating the influence of attractiveness, it is still important to consider whether the effects seen in a laboratory are applicable to real world situations³². Researchers cannot guarantee that a person will behave the same way in a real courtroom as they would in a laboratory. Because of these differences, it’s helpful to look at criminal justice research, which involves directly observing real courtroom cases. With this type of “observational research,” we can observe what’s actually happening around us, but we sacrifice the ability to rule out those pesky “extraneous variables.” If what we find in the real world matches what we find in a laboratory, then we might be onto something.

In this circumstance, we do find that the real world reflects the laboratory. Research involving courtroom observation also found that good-looking defendants may be less harshly

³² This touches on the topic of external validity, which is a little complicated, but is essentially how much we can “generalize” the data a researcher finds to other groups of people or real-world situations.

penalized when on trial³³ (Stewart, 1985). A more recent study accounted for whether a juror's decision-making process was experiential (more emotionally based) or rational (logical). The experiential decision makers showed a bias for attractiveness, while rational decision makers did not (Gunnell & Ceci, 2010). This could possibly be a result of the emotional implications of attraction, which sometimes defy logical reasoning. In this study, the effect of the bias was prominent; on average, emotional processors sentenced unattractive defendants to an additional 22 months of prison.

Switching gears from the courtroom to the comic book, this research could be a possible explanation for why we love (attractive) villains. Their physical appearance may, in a sense, override how guilty we perceive them to be (especially for emotional processors). Therefore, for no other reason than a pretty face, these villains become more likeable.

You Can't Always Get What You Want

However, as I mentioned earlier, villains are quite polarized on the attractiveness scale. Therefore, the argument above does not apply to the villains that we like despite a homelier appearance. This brings us to a third point—that sometimes we like villains because, deep down, they still have redeemable qualities or relatable backstories. This spark of humanity makes them more complex and interesting characters who can evoke emotions in the audience. Take Harley Quinn for example, in her original backstory comic, “Mad Love.” Harley Quinn began as Harleen Quinzel, a fresh-faced psychologist with a dream of writing pop-novels on Gotham's criminals³⁴. During an internship at the Arkham Asylum, Harley arranges an interview with the

³³ It is important to note that according to Stewart's 1985 study, attractiveness did not affect conviction (the decision of guilty or not), only the harshness of their sentencing.

³⁴ *Writes the fresh-faced psychology major in her own pop novel chapter on criminals.*

Joker, despite warnings that he was an “animal” and a “fiend.” She goes into it expecting anything—except Joker saying, “you know, my father used to beat me up pretty bad.” Her shock turns to sympathy, and Harley begins to fall for the Joker; he makes her laugh and makes her cry. Soon, she concludes that he is not a cold-hearted criminal, but rather a victim of society. She decides to help him escape from Arkham Asylum, but within a few days, Batman brings him back, beaten and bruised. Harley is horrified by what Batman did to the Joker and decides to rob a costume store and assume the persona of Harley Quinn. Flashing forward to the comic’s main storyline, Harley finds that her love, the Joker, has become consumed with figuring out a perfect plan to kill Batman. He thinks of a scheme called “Death of a Hundred Smiles,” which involved lowering Batman into a tub of one hundred smiling piranhas. However, his perfect plan had one terrible flaw—piranhas can’t smile. Joker angrily casts Harley out onto the street, where she blames Batman for coming between them. She believes that getting rid of Batman once and for all will give her a happy ending, in which she marries the Joker and they have a bunch of mischievous kids.

Harley pretends to defect to the side of good and tells Batman that she is waiting for him at the docks to give him information about the Joker. Surprising him with a poisonous gas, Harley kidnaps him and brings him to a warehouse. Waiting for him is an improved “Death of a Hundred Smiles.” Harley hangs Batman by his feet, so that from his angle, the piranhas’ frowns are turned upside down. Batman, completely trapped, convinces her to call the Joker. The Joker shows up fuming and immediately hits Harley. “Batman is mine! You had no right to interfere with my fun!” he says. Harley backs away from him, scarred. He throws her out of a window, where she falls several stories. She blames herself for the abuse, claiming it was due to misunderstanding his joke. The Joker releases Batman and apologizes to him, but Batman tells

him “I knew your massive ego would never allow anyone else the ‘honor’ of killing me... Though I have to admit she came a lot closer than *you* ever did....”

Later, Harley wakes up in a hospital bed, wrapped in a full body cast. The doctor asks her, “How did it feel to be so dependent on a man, that you’d give up everything for him, gaining nothing in return?” Harley looks over solemnly, “It felt like...” She sees a flower at her bedside, with a note that says “Feel better soon. -- J.” She smiles, “It felt like a kiss!”

Mad Love earned an Eisner Award³⁵ for “Best Single Story” in 1994 and has become one of the most important comics for the character of Harley Quinn. Her story is a good example of why we love villains, because you can use it to ask two good questions that may help solve the mystery of why we care about a villainous character.

1. In terms of the story itself, what about Harley Quinn’s character might make her love the Joker?
2. Outside of the story, how might the audience’s emotional reaction to Harley Quinn change what they think of her?

So, let’s start with Harley Quinn herself. Why does *she* love the Joker? She’s a psychologist—she should know he is a loose cannon and a dangerous criminal, and yet, she ends up siding with him, and joining in his evil gimmicks.

To investigate this question, it is important to first know a little more about the Joker himself and how he is similar to other villains. One similarity, is that many comic book villains have at least one personality trait from the Dark Triad. The Dark Triad, put forth by personality theorists, refers to the three personality constructs that are considered socially aversive or otherwise noxious. Machiavellianism, the first of the Dark Triad, relates to insincerity and “cold-

³⁵ Essentially the Oscar or Pulitzer of the comic book industry

heartedness.” The second construct, narcissism, refers to self-centeredness and entitlement. Psychopathy, the third construct, is sometimes misconstrued in media and popular culture, and is more accurately represented by emotional coldness and low empathy (Chung & Charles, 2016; Paulhus & Williams, 2002). Examining some of the more famous supervillains, it could be suggested that Thanos displays Machiavellianism, Lex Luthor has many narcissistic qualities, and Joker could be considered a psychopath.

People who score highly in Dark Triad measures are more likely to exercise dictatorial control with leadership styles that are considered “manipulative,” “destructive,” “evil,” “bad,” “abusive,” and so on. However, despite these negative associations, Dark Triad individuals can also be perceived as “charismatic,” “bold,” “ambitious,” or having certain other respectable traits (Lipman-Blumen, 2004). This is why these supervillain leaders still manage to get henchmen, and similarly, how people with Dark Triad traits still find positions of power.

A person’s likelihood to excuse (and sometimes support) the behavior of a Dark Triad individual may depend on their vulnerability, which can generally be described as a person’s susceptibility to physical or psychological harm. Vulnerability is related to depression, low self-regard, social withdrawal, gullibility, “trustingness”, and low assertiveness (Chung & Charles, 2016; D’Esposito, Blake, & Riccio 2011; Hawker & Boulton, 2000). Based on one study by Chung and Charles (2016), when those with high levels of vulnerability read vignettes³⁶ about a victim and perpetrator, they are more likely to make excuses for the perpetrator (i.e., the perpetrator “must’ve had an unhappy childhood”) or even praise them (i.e., the perpetrator is “a man of prestige and influence”). Those with lower levels of vulnerability were more likely to say

³⁶ A brief story/episode, often used in psychological research to explore sensitive topics.

things such as the perpetrator “is parasitic and blames everyone else for what happens to him,” and in fewer words, the perpetrator was described as “a total douchebag.”

So, theoretically, Harley Quinn may have higher levels of vulnerability, which may influence her to stay in the abusive relationship with the Joker, despite his clear exhibitions of Dark Triad behavior. Likewise, those of us who are a little more vulnerable may find ourselves making excuses for a villain’s action or picking out qualities that we do like instead. This is not to say that everyone who appreciates villains must be highly vulnerable, but rather to bring up an interesting reason as to what kind of people may be more likely to oversee flaws in toxic people.

From a different angle, the backstory of Harley Quinn also relates to the psychology of empathy. The *Mad Love* comic made many fans love Harley Quinn more, not because they admired any Dark Triad tendencies, but because many people felt empathy for her and the harsh reality of the story.

The comic was the first to reveal how deeply Harley cared for the Joker, and how horribly abusive he was to her. The ending is heartbreaking, because Harley falls back into this cycle of abuse, instead of escaping it. Despite almost killing our favorite Bat, Harley’s story leads you to feel sorry for her, even relate to her if you ever have experienced something similar. This comic became popular because of how it humanized Harley Quinn. She was less of a crazy sidekick to the Joker, and more of a misguided soul, desperate for a psychopath to love her.

Let’s go back to Gunnell and Ceci’s (2010) courtroom study that compared the experiential and rational processors and their sentencing of attractive defendants. Another finding of this study was that experiential/emotional processors were also more likely to state that their sentencing decision would be influenced by other extralegal factors (e.g., charity

work), drug use, or receiving welfare. This is one of many examples of how learning someone's background can influence how we perceive them.

This all relates to empathy, which is the capacity to understand another person's feelings and emotions (Ioannidou & Konstantikaki, 2008). Every writer knows that creating a backstory for a character is a tried and true form of generating empathy. Empathy is valuable because it makes the audience care more about what happens to the character, and therefore become more invested in the plot. A series of four experiments conducted by Skorinko and colleagues (2014) looked at the effects on perspective taking on courtroom decisions. The researchers used perspective taking, which involves imagining oneself in the position of another, because it builds empathy. The study found that perspective-taking influenced a juror's perception on a defendant's culpability³⁷, likelihood to commit another crime, and overall guilt. These perceptions change depending on whether the juror takes the perspective of the victim or the defendant. Essentially, feeling empathy for the victim increases the amount of judgment towards the defendant, but feeling empathy for the defendant decreases that judgment.

Liking villainous characters could just be a matter of who earns empathy. If the hero earns it, then the story is a classic "good defeats evil" and "everyone is happy at the end." If the villain earns the empathy, then their crimes become more forgivable and everything is a little more complicated. When I was six years old, I watched the very first Spider Man movie. I absolutely loved it until *spoiler alert* the Green Goblin died. Despite him being an evil man, I cried when he met his end because, "He had a family."³⁸ My younger self, the bleeding heart, felt empathy towards the Green Goblin and it changed the way I viewed his demise. I didn't see him as a dangerous criminal; he was a father. In this way, empathy is an incredibly powerful force in

³⁷ Culpability is another word for blame, or the person being responsible for what they've done wrong.

³⁸ I also cried during the second Spider Man movie. So needless to say, my parents went to the third one without me.

whether we like a villain. Whether it is taking the perspective of Harley Quinn, or crying at the death of the Green Goblin, using empathy makes supervillains more relatable, likable, and memorable.

Play with Fire

In July of 2012, a young man named James Holmes bought tickets at the Aurora theatre in Colorado to a sold-out midnight premiere of *The Dark Knight Rises* (the third installment of a Batman trilogy by Christopher Nolan). Holmes entered the theatre, but then left through one of the emergency exits, propping the door behind him. In the previous months, Holmes had legally purchased four guns, and more than 6,000 rounds of ammunition. He gathered these things from his car and came back into the theatre through the propped door of the emergency exit about 30 minutes after leaving.

At first, many of the audience members thought the smoke was part of the movie, unaware that Holmes had detonated several smoke bombs. Then Holmes opened fire into the packed theatre, seemingly never stopping to reload, only switching guns. Chaos and confusion erupted as the nightmare unfolded; some laid on the ground for safety, some ran out of the theatre, some froze in sheer terror. The shooting resulted in the death of 12 people, and the injury of 70.

Holmes was arrested within minutes after first responders arrived. Police reported that he was “completely compliant” during his arrest. Despite this, there would be difficulty for the police force who would later investigate his apartment and find extensive booby-trapping with homemade bombs. James Holmes was tried, and although he pleaded insanity, he would eventually be sentenced to 12 life sentences in prison.

The NYC police commissioner, Ray Kelly³⁹, stated “He had his hair painted red, he said he was ‘The Joker,’ obviously the ‘enemy’ of Batman.” Although some of the comparisons between Holmes and the Joker could be questioned, there are several parallels between the crime and elements of the Batman franchise. The Joker extensively used gas and occasionally use guns on large crowds of civilians. Additionally, a plotline staple to the Batman franchise is that Bruce Wayne witnesses his parents’ murder after leaving a theatre⁴⁰ (“NYC Police Commissioner,” 2012).

If in fact James Holmes took his inspiration from the Joker, this tragedy would not be the first time that crime imitated fiction. After the original *Scream* movie became a hit, one man would go on to dress in the iconic black robes and mask and stab his 15-year-old neighbor 30 times (Osborn, 2001). A teenager strangled his brother because he related to the fictional serial killer Dexter (Martinez, 2009). *A Clockwork Orange* (1971) was pulled from UK cinemas because of an accompanying rise in violence (Faraci, 2013).

The Aurora shooting revives a dialogue about the consequences of idolizing villainy, since not everyone is capable of distinguishing between what they should do, and what a fictional character does. This often occurs when people relate too strongly, or even idolize the actions of antagonists. I would not suggest that villains themselves cause crime; they are merely fictional manifestations of a writer’s mind. Perhaps the existence of villains simply galvanized people who were already violence-prone, inspiring them to act out on pre-existing urges. No one is going to recreate a fictional murder if they had never thought about murdering someone before. Violence itself, and a person’s reaction to it will be discussed more in Chapter 6, but I

³⁹ The NYC Police commissioner was allegedly close to the force in Colorado.

⁴⁰ Although this is not always a movie theatre.

felt as though I couldn't write some chapter about loving villains without acknowledging that things can go too far.

For most of us, it's perfectly healthy and acceptable to appreciate the antagonist in a story. After all, some villains are really good at being bad. But whether it's the chaotic Joker or calculated Lex Luthor, the alluring Mystique or disfigured Dr. Doom, it's important to remember that villains are just that—villains. The witty banter, the intricate costumes, the incredible power is all fictional smoke and mirrors. These characters are not meant to be worshiped or modeled after. In fact, many of them exist to show that evil in any form, in any shape, in any size, can be conquered in the name of what is good.

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Chapter 5

Coming to Terms with Trauma...the Superhero Way

“Ever danced with the devil in the pale moonlight?”

-Joker (*Batman*, 1989)

Every person has a backstory of some kind, a profile of events that has led him or her to be the person they are in the present. Although some of our path is decided by the choices that we make, a multitude of things are not within a person’s control. People usually try to avoid tragedy and trauma, but inevitably encounter them at some point. Tragedy and trauma are memorable experiences and often weave into the life stories of those who witness and experience them.

When people create things, whether it be art, music, literature, or something else, it can reflect these unpleasant experiences that appear in our lives. Superheroes, being a certain form of creative expression, are no different when it comes to expressing the human condition. What is most interesting about superheroes is that they are often written to be human, or even greater than human. This superhero trope inspires writers to create a person who handles difficult situations in the way many of us wish we could. By difficult situations, I don’t necessarily mean the “typical” superhero things, like jailing the local bank robber. I mean things like death, trauma, and other unfortunate life circumstances.

This chapter aims to explore how our favorite superheroes react to trauma, and whether this differs from how real people and real heroes react. It may not seem like it at first, but the stories of comic book heroes like Spiderman and Batman can reflect a lot on the world around us. After all, everyone has a backstory.

Life-Altering Forces

Clinical psychologist Robin Rosenberg (2013) categorized three distinct types of “life-altering forces” that lie at the heart of most superhero origin stories: trauma, destiny, and sheer chance. Trauma, which will be the main focus of this chapter, is evidenced by an incredible excess of orphaned superheroes (e.g., Batman, Robin, Superman, Spiderman, Iron Man, Wolverine, Magneto, just to name a few). Although being an orphan is not the only type of trauma experienced by a superhero, the loss of a parental figure can be a defining moment that leads to a life of fighting crime.

The second force, destiny, is best exemplified by heroes who become the “Chosen One.” My personal favorite destiny-based origin story is that of Billy Batson, who became DC’s Captain Marvel (popularly known as Shazam)⁴¹. In a bizarre and slightly concerning series of events, Billy, the young orphan (surprise, surprise) is led by a stranger onto a magical train down to a cave. The stranger then disappears, and Billy walks down a hall with statues of the seven deadly sins: lust, gluttony, greed, wrath, sloth, pride and envy. A white-haired wizard named Shazam welcomes the child, explaining that he had fought evil for 3,000 years, and has chosen the pure-hearted Billy to succeed him as the protector of the world. Billy was thus gifted the ability to turn into a beefy grown-up superhero just by saying “Shazam.” Moments later, a granite block fell from the roof of the cave and killed the wizard, leaving Billy/Shazam/Captain Marvel, to continue forth with his newfound power, and fight crime in the way that young boys only dream of (Whiz Comics #2, 1940).⁴²

⁴¹ I know this can be confusing, but there are three Captain Marvels. One is owned by DC Comics, who we discuss here. The other two are owned by Marvel, who eventually trademarked the name (go figure). There is Captain Marvel the Kree alien superhero, and Ms. Marvel, who recently got a promotion to be the female Captain Marvel.

⁴² In case you are as curious as I was, the “Stranger Danger” mentality wasn’t a thing until the 1960s, about 20 years after young Billy’s highly questionable escapade.

Rosenberg's third life-altering force is sheer chance. This force involves many aspects of chance, from the random, adverse events that seem to pop up uninvited into our lives, to the circumstances of our birth. A good example of this would be the mutants described in the X-men series, who have superpowers courtesy of a genetic abnormality. In other words, many of the X-men were simply born that way. We also see chance play out in the origins of super villains; Batman's adversary, Two Face, began as upstanding district attorney, Harvey Kent (later named Harvey Dent out of respect to Superman's alter ego, Clark Kent). Harvey stood by a legion of strong morals, fighting to bring justice to the deeply corrupt Gotham City. Then one day, a disgruntled mob boss attacked Harvey with acid, hideously scarring the left side of his face. Harvey's life starts to decline, his own fiancée reacts with horror upon seeing him and he enters a darker state of mind. After a fit of rage, Harvey decides to flip a scarred coin: if the clean side came up, Harvey would wait for a plastic surgeon; but if the scarred side came up, he would dedicate his life to becoming a notorious criminal. The coin lands scarred-side up, and thus Two-Face was born (Detective Comics #66, 1942).

Rosenberg's three life-altering forces, while initially constructed as an explanation for the origin of the modern superhero, can also contribute to building the identity of day-to-day people. Trauma can be an important piece to how people tell their life story. Destiny is a key element in spirituality and religion. Chance is the bait of gamblers, and a nightmare to people who are rigid planners. Trauma, destiny and chance can rarely be controlled in the real world, let alone leave us with superhuman strength, or the ability to fly. However, most people can control how they *respond* to these life-altering events, at least to a certain extent. Trauma in particular elicits a multitude of incredibly varied responses, and there is a lot of research that goes into how people respond to those types of stressful situations. According to Rosenberg, trauma can create

a superhero, but if that were true for us in the real world then there would be more superheroes than we would know what to do with! So, what's different about how we handle traumatic events, compared to Batman, or Spiderman? What does trauma do to us, or do *for* us?

One Bad Day

The Joker famously asked Batman in the 1989 *Batman* movie, “Ever danced with the devil in the pale moonlight?” Although he claimed that he just liked the sound of the phrase, the Joker just so happened to allude to one of the common themes of his and Batman's story -- trauma. In this moment, with this one quote, the Joker laid out that he experienced suffering in his life and was inquiring if Batman had too. The Joker, being a mischievous, enigma of a character, has a notably ambiguous backstory. Many have written various versions of Joker's origins, but often when Joker tells the story, it is never known whether he is actually telling the truth. His stories do have a theme: they almost always involve trauma – severe childhood abuse, his wife's death, mob violence, and the inevitable falling into a chemical vat. In one of the most famous Joker origin stories, “The Killing Joke” (1988), the Joker explains to Batman that, “All it takes is one bad day to reduce the sanest man alive to lunacy. That's how far the world is from where I am. Just one bad day. You had a bad day once, am I right? I know I am. I can tell. You had a bad day and everything changed. Why else would you dress up like a flying rat?” -Joker, (*The Killing Joke*, 1988)

This statement highlights that the forces that descended the Joker into villainy also raised Batman into heroism, and that the difference between hero and villain is only in how they handled their “bad day.” Trauma is the narrative link between the infamous villain and his superhero counterpart.

Because trauma appears in many forms and produces many outcomes, it is a fascination to writers, artists, psychologists, and more. It's no surprise that trauma has made its way into many of the backstories and plotlines of comic books and movies, including the dynamic between the Dark Knight and the Clown Prince⁴³. According to the American Psychological Association, trauma is "an emotional response to a terrible event." In the DSM-5, examples of directly experienced traumatic events can include exposure to war or terrorism, threatened or actual physical assault, threatened or actual sexual violence, kidnapping/hostage situations, torture, natural disasters, severe motor vehicle accidents, and medical incidents that involve a sudden, catastrophic event (such as waking up during surgery). However, trauma does not have to always be directly experienced, since it is simply an emotional response to something horrible that occurred. This means we can still be psychologically affected by traumatic events that happen to others. This type of trauma, sometimes referred to as witnessed trauma, is in fact very relevant to our everyday heroes. Emergency responders, such as police, firefighters, and EMS, suffer exposure to disturbing or frightening traumatic events daily. In many situations, the exposure is secondhand, but many responders may still have a strong emotional reaction to what they saw.

The many different experiences of trauma that we witness in our world tend to show up in narratives. Superheroes experience physical assault as part of the job. Magneto suffered through the Holocaust. Captain America, Wolverine, and several others fought in a war. Some comics have even portrayed sexual violence (against both heroes and heroines). Given all this, we are led to the question: what happens when a hero experiences trauma, and how does it differ from our own lives?

⁴³ The nicknames for Batman and Joker

After a person experiences trauma, superhero or not, there are four potential outcomes that I will discuss in this section. It's important to note that these outcomes are not entirely independent of each other⁴⁴:

1. A chronic negative response - a long-lasting disruption of normal psychological functioning (This is often where we see Post Traumatic Stress Disorders, or PTSD).
2. Recovery - when normal psychological functioning is disrupted, but then slowly returns to normal.
3. Resilience – the ability to remain relatively stable and psychologically healthy following the adverse event.
4. Posttraumatic growth – strongly related to resilience, this is a positive psychological change following an encounter with negative life circumstances.

There are plenty of examples, both in our world and the comic book world, that illustrate each of these four reactions. The real question here, is whether there is a difference between the heroes and the civilians regarding the frequency of psychologically healthy outcomes (recovery, resilience, and posttraumatic growth) and psychologically unhealthy outcomes (chronic negative response)?

Negative Responses to Trauma and Recovery

It's important to discuss the negative responses to trauma as a reminder that trauma is disturbing and can be difficult to manage psychologically. How a person reacts to extreme stress

⁴⁴ There is also potentially a fifth outcome, which is a delayed grief response, where an individual appears to be functioning well, but deteriorates psychologically later. However, no empirical study has clearly demonstrated the existence of delayed grief (Bonanno, 2004), thus I chose not to focus on the subject.

is influenced by the type of trauma, the duration, the spontaneity, and the culture. Emotions range across a wide spectrum, often incorporating anxiety, sadness, guilt, and anger. A person can also be affected physically, sometimes with symptoms of fatigue, muscle soreness, and gastrointestinal issues (Tedeschi & Calhoun, 2004). In many cases, a person will recover from these symptoms after a period of time passes. This recovery time varies on the trauma experience and the individual, so there is no calendar length for a “normal” recovery time.

In some instances, however, the negative symptoms persevere and have potential to worsen. In these circumstances, it may be appropriate to undergo psychological treatment. A trauma-based psychological disorder could be present at this point, such as post-traumatic stress disorder (PTSD) or another related disorder. Vulnerability to more severe symptoms and PTSD is influenced by a variety of factors that interact with each other. A meta-analysis found the following seven predictors for developing PTSD. I’ve listed them in order from the smallest to largest relationship with a diagnosis of PTSD (Ozer, Best, Lipsey, & Weiss, 2003)⁴⁵:

1. Prior trauma ⁴⁶
2. Prior adjustment – this includes previous mental health conditions and treatment
3. Family history of psychopathology
4. Peritraumatic emotions – emotions during the traumatic event
5. Perceived life threat
6. Perceived social support
7. Peritraumatic dissociation – whether there is a disconnect during the traumatic event

⁴⁵ 1,2, and 3 are all have the same degree of correlation, as well as 4 and 5.

⁴⁶ When someone is exposed to multiple traumatic episodes, this increases the risk of developing PTSD. For this reason, emergency workers are often at risk for PTSD, since as I mentioned before, they witness a lot of trauma (Clohessy and Ehlers, 1999). This also explains why military personnel are more likely to get PTSD after multiple deployments (Kline et al. 2010).

So perhaps you could make the argument that superheroes fare so well because they have stellar protective factors against negative reactions to trauma. Maybe they have no prior trauma, no family history of psychopathology, and a fantastic network of family and friends. However, this would be assuming that superheroes never have negative reactions to stress.

Although we do not often see a superhero's Kryptonite, there are several moments where trauma is carried on the shoulders of a caped crusader. Wolverine, a mutant and member of the X-Men team, is close to immortal, due to his regenerative abilities. Because of this, he has fought in several wars, real and fictional. Although he is never officially diagnosed with PTSD, he exhibits many symptoms of the disorder. Wolverine is sometimes depicted as having flashbacks to the war, nightmares, increased arousal⁴⁷, detachment from others, and several other symptoms. However, these negative reactions don't make him any less of a hero, in fact, he is still a favorite among many X-Men fans. Superheroes are not always perfect, and often times when hardship falls, they may really struggle with it. But these reactions are understandable, and help the audience emotionally connect with the character.

Resilience

Of all the outcomes, superhero behavior may be best explained by resilience. Superheroes, who are constantly throwing themselves into bloody brawls and burning buildings, rarely seem to be adversely affected by their heroic labors. Maybe Superman can bounce off trauma like he bounces bullets off his chest? Maybe Captain America's shield protects him from attackers *and* emotional turmoil? If we can't attribute resilience to costumes and superpowers, what can we say makes someone resilient?

⁴⁷ In a psychological sense, arousal refers to a state of being incredibly alert and awake. Often, arousal is accompanied with a rapid heartbeat, sweating, increased attention, or rapid breathing

As mentioned earlier, certain factors influence the likelihood of an individual developing PTSD. Simply being on the other end of those spectrums (i.e., no family history, excellent social support, etc.) may in itself be a protective factor against a harmful reaction to stress. Research indicates that a variety of other factors may be involved, one of which, is a personality trait called hardiness. Hardiness includes a commitment to finding life's meaning, belief in an internal locus of control⁴⁸, and belief that growth is the product of both positive and negative life events (Bonanno, 2004). Those who have higher hardiness are more likely to find meaning in hardship and maintain the idea that they are still in control of their life. Hardiness can also be related to post traumatic growth, since the concepts of resilience and post traumatic growth are related.

Another promoter of resilience is self-enhancement, which is the inflation of one's own self-image. Self-enhancement tends to be an overly positive appraisal of the self and was traditionally considered to be a root of narcissism and a hindrance to healthier, more realistic cognitions. Research has suggested that the self-enhancer may be more able to handle aversive events, as seen in a study done by Bonanno, Rennie, and Dekel (2005). This study examined resilience in individuals who were on location during the September 11th, 2001 terrorist attack on the World Trade Center. Researchers collected data through questionnaires, personal interviews of the participants, and the ratings of close friends and family. It was found that self-enhancers tended to be better adjusted 18 months after the attack, showing lower levels of PTSD and depression symptoms than their non-enhancing counterparts. Why is this the case? The researchers hypothesized that self-enhancers benefit from higher self-esteem and more positive emotions, which allowed them to cope and adjust well. However, according to the study, this self-enhancement may come with a caveat. Many of the close family and friends did not rate

⁴⁸ Having an internal locus of control suggests that you believe you are in control of the events in your life.

their self-enhancing friend as favorably, suggesting that some aspects of self-enhancement are social liabilities.

As far as self-enhancing superheroes, there is none quite like Tony Stark, better known to the public as Iron Man. Originally created in 1963, Tony Stark is the snarky heir to a multibillion dollar arms manufacturing industry. He becomes Iron Man when he dons a suit of highly weaponized armor created from his company's technology. Due to his profession, Stark is one of the comic book characters that is most heavily involved with war, yet often, he seems relatively unfazed by the chaos⁴⁹. Could this resilience be attributed to his near-narcissistic behavior? There is no question that Tony Stark appraises himself highly. In Marvel's blockbuster *The Avengers* (2012), Captain America asked Stark, "Big man in a suit of armor. Take that off, what are you?" To which, Tony famously replies, "Genius, billionaire, playboy, philanthropist." This self-enhancing may put off his super-coworkers, similar to what was seen in the study on survivors of the 9-11 terrorist attack, but maybe it works as a protective factor, and gives Iron Man his iron will.

Resilience is not limited to cocky billionaires who fly around shooting beams from their hands, despite what Tony Stark may have to say. It is perfectly natural to assume that everyone has a negative response to loss and trauma. In fact, it may even be frowned upon to be perfectly resilient in the face of loss, since resilient behavior could also be mistaken for cold and uncaring attitudes towards loved ones. Before more research was conducted, the absence of grief was previously considered to be pathological, resulting from denial and emotional withdrawal. Conversely, we appraise those who are resilient in the face of violent or life-threatening events, considering them heroic and being emotionally strong (and contributing to the reason

⁴⁹ Some comics have alluded to Tony Stark's alcohol problem, but Disney has avoided this area in the cinematic universe, due to the children in their audience.

superheroes were written to be resilient). This demonstrates a convoluted belief that having resilience in the face of danger makes you special, while having it in the face of loss makes you “heartless.”

In reality, resilience is not only healthy in practically all situations, but is also more common than once believed, even among the Lois Lanes and Commissioner Gordons⁵⁰ of the world (Bonanno, 2004). In fact, it was estimated that even though an estimated 50-60% of the U.S. population is exposed to traumatic stress, only about 5-10% develop PTSD (Ozer et al., 2003). A variety of studies show that the everyday person can be resilient in the face of horrible tragedy, speaking wonders to the human ability to move forward in the face of hardship. This shows us that resilience is not contained on a movie screen or in the pages of a book but is passing by us when we walk down the street.

Post Traumatic Growth

Although the coined term of “post traumatic growth,” is relatively new, the idea that one can grow after hardship dates back thousands of years. Many spiritual teachings, such as Hinduism, Buddhism, Islam, and Christianity, reference transformation as a product of suffering. Philosophers and novelists have also commented on the relationship between hardship and growth. German philosopher Friedrich Nietzsche wrote about suffering in the late 19th century. In his book, *Human, All Too Human*, Nietzsche says, “When a misfortune strikes us, we can overcome it either by removing its cause or else by changing the effect it has on our feelings, that is, by reinterpreting the misfortune as a good, whose benefit may only later become clear.” More famously, Nietzsche also wrote, “That which does not kill us makes us stronger.”

⁵⁰ For those who aren't familiar, these two are non-super citizens in the comic book world.

Post traumatic growth, as coined by psychologists, has only been studied empirically since around the 1980s (Tedeschi & Calhoun, 2004). As the name implies, posttraumatic growth refers to the subjectively positive psychological changes that can occur in response to experiencing a traumatic event. It's different from resilience in that resilience is an ability to resist damage from stress, while post traumatic growth is a constructive transformation that occurs in the individual. The most common measure for this phenomenon, the Post-Traumatic Growth Inventory (PTGI), outlines five domains for growth:

1. A greater appreciation for life
2. Closer relationships
3. Identification of new possibilities
4. Increased personal strength
5. Positive spiritual change (regardless of religious affiliation).

A real-world example of this could be a woman who miraculously walks away from a horrible car crash. The woman, after this near-death experience, may take more time to appreciate her family, or take to the belief that she was left alive for a divine reason.

In the Super-world, post traumatic growth is evident in the comic book story of how Peter Parker becomes Spider-Man. Young Peter Parker was a clean-cut honors student, who found himself constantly ridiculed by his peers. His only relief was with his caretakers, Aunt May and Uncle Ben, who always supported him. One day, while wandering into a science exhibit, he is bitten by a radioactive spider. Suddenly, Peter realized he had incredible strength, agility, and the ability to cling to walls. However, as implied in earlier sections, superpowers alone do not make somebody a superhero, and thus the spider bite was not the trauma that set Peter onto the path of good.

Before we continue discussing our friend Peter Parker, let's remember one little detail; Peter is a 15-year-old boy when he gets his powers. Honestly, if all the 15-year old boys in your neighborhood suddenly learned to fly, do you think they would all band up to fight for the good of all? In my neighborhood, I think it would turn into a game of "who can drop a water balloon on an unsuspecting neighbor first."

So, no, young Peter did not immediately go into "with great power comes great responsibility" mode. Instead, he tried his hand in a wrestling competition, facing off against fictional pro-wrestler Crusher Hogan. This is when he first dons a mask, and starts his identity as Spider-Man. He won the fight and a cash prize and was quickly a sensation on the television. After his first TV special ended, Spider-Man watched a cop chase a criminal down the hallway. The cop shouted at the young wrestler to do something, but Spider-Man let him escape into an elevator. When the cop asked him why he didn't try to hold or trip the criminal. Spider-Man gave an apathetic response, "Sorry pal! That's **your** job! I'm **thru** being pushed around – by anyone! From now on I just look out for number one – that means – **me!**" (Amazing Fantasy #15)

He leaves the cop flustered, and a few hours later, comes home to his aunt and uncle, who bought him a new microscope as a surprise. He thinks to himself, "They're the only ones who've ever been kind to me! I'll see to it that **they're** always happy, but the rest of the world can go hang for all I care!"(Amazing Fantasy #15).

Despite this vow to do right by his Aunt and Uncle, his apathy towards the world and its crime unfortunately cost him dearly. The criminal from the hallway would go on to rob Parker's house, and murder Peter's Uncle Ben. The trauma of losing his uncle changed Peter, and turned

him into the Spider-Man we know and love, who dedicates his life to making the world a better place (Amazing Fantasy #15, 1962).

For Parker, the vicarious trauma of losing a loved one helped him grow an increased sense of compassion for those who are in trouble and changed his priorities from self-servient to benevolent. Peter still misses his uncle later in the comics, but it's important to note that pain does not necessarily end when growth occurs. A widow or widower can grow as a person and still miss their spouse, and a thriving survivor of a natural disaster can still reflect on the situation with fear. Although the trauma may be undesirable and painful, people adapt and can turn the outcome into something uplifting. Whether the results kickstart a life of crime fighting, or a simple call to an estranged father, the ability to turn something negative into something positive is a beautiful thing.

So what does it take to thrive in the face of adversity? Who is more likely to learn and grow from high stress situations? Is it possible that superheroes are better at it than us?

There are two basic personality traits that can make someone more likely to experience post traumatic growth. Those traits are extraversion and openness to new experience (Tedeschi & Calhoun, 1996). In the Big Five theory of personality (discussed with more detail in Chapter 2), high extraversion is characterized by social aptitude, excitability, loquaciousness, and confidence. High openness relates to willingness to try new experiences, tackle challenges, and think creatively (Goldberg, 1990). Neuroticism, another personality trait which deals with mood shifts, anxiety and stress, was (surprisingly) not found to be related to post-traumatic growth.

Peter Parker, however, was not the most extroverted guy, and he didn't seem particularly open to new experiences until getting his superpowers, so it's possible he had something else going for him. In this situation, he may have had a healthy coping style. Coping style is

important, since managing distressing emotions is necessary for building constructive cognitions. Narrative development, which is how a person may construct their life story in their mind, can be a big indicator of whether that person holds fortifying cognitions (e.g., thoughts that build someone up). The trauma narrative refers to a traumatic event as a turning point, such that before and after trauma are two distinct chapters in life (McAdams, 1993). Sometimes these cognitions reflect a halt in the sense of achieving goals, where things that were once possible are no longer possible in the new chapter. Being as moving forward is a keystone in life satisfaction (Little, 1998), this type of trauma narrative can be detrimental to growth afterwards. Had Peter Parker thought “I can no longer use my powers because I can’t use them right” after his uncle died, then there would have been no growth, and no Spider-Man. Instead, remaining persistent in all aspects, and revising the narrative is key to growth after adversity.

Spider-Man can cling to walls and shoot webs, but his ability to flourish after trauma isn’t a superpower, in fact, it’s not even a rarity. After trauma, reports of positive growth far outnumber the reports of psychiatric disorders (Tedeschi & Calhoun, 2004). There are countless success stories, “comebacks” and testimonies of the changed – no capes attached.

Closing Points

Perhaps another reason superheroes have gained popularity is because they provide an example for coping with trauma, which isn’t always represented in the media and news. While some superheroes show us that it’s okay to struggle with the hardships of life, others show us how we can develop from them. Yes, it’s true that “one bad day” has the ability to change our lives, but at least there is the hope that we can take that bad day and use it to become Batman.

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Chapter 6

The Boss Battle

"Dr. Banner, your work is unparalleled. And I'm a huge fan of the way you lose control and turn into an enormous green rage monster."
-Tony Stark (Iron Man) to Bruce Banner (The Hulk), *The Avengers* (2012)

Although the movie *Logan* (2017) was praised for its gritty and bitter storyline, it certainly earned its R-rating through gratuitous amounts of violence. The movie portrays Logan (The Wolverine), a child named Laura, and their journey (where they disembowel and dismember foes along the way). There is such a high amount of realism in the bloody scenes that it is easy to forget the improbability of superheroes when the destruction they cause looks so real. The makeup artist for the movie, Joel Harlow, and his team brought the gore to life, and they paid a lot of attention to detail. In fact, there is a scene where the young Laura cuts off the head of a man and throws it. In order to make this head look real, Harlow put lead shot in the fake heads so that they wouldn't bounce like they were made of foam. He also weighed the jaws, saying "The jaws were independent. No matter the way the head fell, the jaws would go slack with gravity in that direction. That's something I haven't seen done before. As we were making them, I thought, 'This is what's going to sell these heads (Couch, 2017).'"

It's undoubtedly morbid to spend a lot of time thinking about how a severed head should bounce, but it is part of what goes into the job of bringing realistic violence to the big screen. Considering that the superhero genre often caters to younger audiences (in order to sell toys), it seems counterintuitive to have an R-rated superhero movie. The rating excludes children who are not old enough to see the movie, and therefore decreases the size of the potential audience. Despite this, *Logan* is not the first R-rated superhero movie, and although it brought in over \$616 million in box office revenue, it is not even the most successful R-rated superhero movie.

Recently, the R-rated superhero movies, although fewer and farther between have done surprising well in the box office. *Deadpool* (2016), another incredibly violent X-men movie, broke records to become the highest grossing R-rated movie of all time, earning \$783.1 million worldwide⁵¹.

Deadpool, *Logan*, and other R-rated movies such as *Kick-Ass* or *Blade* are rather extreme examples of how superhero stories portray violence. Violence, which is the central theme to this chapter, is technically defined as “the use of physical force so as to injure, abuse, damage, or destroy” (Merriam Webster), and it is a quintessential part of the plotline of most superhero stories. The *amount* of violence in superhero stories varies vastly depending on the time of its release, who the main superhero is, who the creative mind behind it was, and the medium where it was brought to life (comic book, TV show, radio, etc.).

The time of a film’s release largely affects the amount of violence portrayed. For example, the 1960s were fraught with major controversy related to violence in comics (which will be discussed later). Adam West’s portrayal of Batman during that time focused more on humor and less on violence, making his Batman stand out from most other Batman incarnations. Additionally, many superheroes have been pushed recently into a more “gritty” route.

As far as protagonists go, certain heroes and antiheroes are decidedly more likely to use brutal force than others. The Punisher is a good example of someone who is almost always associated with violent and lethal tactics, and has proven so in his comics, movies, and TV shows alike. Conversely, Spiderman tends to be less violent (with some exceptions).

Wonder Woman could be considered the best example of how the creative mind affects the level of violence, since the men who wrote her comic books had various impressions of a

⁵¹On the domestic level, Mel Gibson’s movie, *The Passion of the Christ*, is the highest grossing rated R movie, earning \$370 million to *Deadpool*’s \$363 million

female superhero's role in serving justice. When she debuted, her creator, William Moulton Marston wrote her to be tough warrior, but after he died, DC comics hired Robert Kanigher, who changed the famous heroine's role to more "civil" things, such as babysitting, fashion, and romance. There have been several other people in charge of creating Wonder Woman, but she continued to waver between roles as a non-violent peacemaker and a mighty Amazon warrior until around the 1970s (Lepore, 2017).

The varied amount of violence portrayed in superheroes caters to the varied tolerance levels that viewers have for violence. Some people can see a head get cut off and not wince. Others may feel that as long as depictions of violence don't include gore, they can be passed off as "cartoonish" or "mild." Another group of people thinks that even "cartoonish" violence should not be tolerated, and those people probably don't like superhero stuff very much. For the sake of this chapter, I am going to focus on people of the first two groups and ask the question, "What is it about violence that draws an audience?"

Like many aspects of psychology, there is no straightforward answer. Much of the literature on violence has been dedicated to the effects of violence on people and what causes people to be violent. These are important questions, but they don't tell us much about why people *like* violence, or at least why they find it to be interesting.

Primal Instinct

Historically, violent entertainment is nothing new, only the form of it has changed. Whereas now we have high definition movies and video games, thousands of years ago people enjoyed theatrical tragedies and gladiator games. In 380 B.C.E., Saint Augustine, repulsed by the Roman fascination for arena matches, told of an acquaintance who, "when he saw the blood, it

was as though he had drunk a deep draught of savage passion. Instead of turning away, he fixed his eyes on the scene and drank in all its frenzy (Augustine, 1991).”

Douglas Gentile, an Iowa State University professor, once suggested that violence tapped into a primal instinct; “There are two things that force us to pay attention, one is violence; the other is sex. Whenever either of those are present in our environment, they have survival value for us” (Yenigun, 2013).

Everyone has survival instincts. They are what drive us to eat food or drink water, and they come very naturally. There are many chemicals and structures inside of us that play into these natural processes. These chemicals can give us clues to why we act the way we do, and yes, even why we like action-packed movies. First, however, let’s briefly talk about the basics of neuroscience. Inside the human body is the nervous system, which is a network of specialized cells that relay information throughout the body. These cells are called neurons and glia, but we will focus on the neurons. Neurons do not touch each other, so they communicate by sending chemical messages over the gap that exists between them. These chemical messages are called neurotransmitters (“Neurotransmitter,” 2018).

Dopamine is the celebrity of the neurotransmitters; you have probably heard about its implications for addiction, or maybe as the “pleasure chemical.” Although “pleasure chemical” is a bit of an overstatement, dopamine is involved in a lot, especially because it does different things depending on where it’s located in the brain. This has led it to be a consideration in research on depression, drug use, dietary habits, physical movement, Parkinson’s disease, schizophrenia, memory, attention, and more (Hussein, 2018). But for this discussion, the main thing you need to know about dopamine is that it affects something called reinforcement. In psychology, reinforcement is simply something that increases a behavior, and dopamine is

thought to be one of the neurotransmitters to underlie specific types of reinforcement (Glimcher, 2010). So how does dopamine relate to why we like violence?

Oddly enough, a study about rats may provide some insight. Well, if you had two male rats, one “residential” rat and one “intruder” rat, and you had them both in a cage, the resident rat would start to show aggressive behavior to the intruder rat. For rats, this aggressive behavior could include biting, a particular sideways stance, “boxing,” and rattling the tail. You would maybe suspect that after the two rats scuffle, they would want to avoid each other for a little bit, take it easy, and cool off for a second. Well, one research study put this to the test by teaching the rat a little behavior. If the residential rat poked a button with its nose, his foe would be returned to the cage and they could scuffle again. The researchers found that the rats would continue to bring the rat back to brawl, and that this behavior was affected by a dopamine pathway (Couppis & Kennedy, 2008).

You may wonder, why does a rat brain matter when studying a human brain? Both rats and mice have been used for research for over a century, and we can thank them for many great strides in understanding humans and medicine. They work well as human analogs because there is a surprising amount of similarities between us and them. Regarding the above study, rat social and aggressive behavior is actually similar to human behavior. In addition, the dopamine systems of rats are similar to the dopamine systems found in humans (Ellenbroek & Yoon, 2016). This could mean that the results of the study apply to humans, meaning that people may also find aggression to be rewarding. For those of us who have ever been in an argument that’s winding down, but then we just had “one more thing” to say, this aggression-seeking behavior may feel familiar.

So, if aggression is rewarding, this may help explain why people may enjoy more aggressive and violent material. When people watch violent material, their brain responds in a comparable way to how it would respond to a real environmental threat, with increased attention, arousal, and preparation for the fight or flight response⁵² (Murray et. al, 2006). If this reaction is rewarding in any way, like the reward for actual aggression, then it could explain why we keep going back to violent material.

Motives Matter

When making a judgment of character, people care about their motives for violence. Even without looking into the literature, we see examples of people discerning the severity of punishment between similar acts of violence, based on the reasoning behind said acts. The American legal system demonstrates this if someone kills another person in self-defense, a situation called “justifiable homicide.” Although the act still leads to the death of someone, if it is done in self-defense, then there may be no criminal charges. Compare this to the harsher sentences given for first-degree murder, where there is no justification or redeeming motive. A now discredited psychological theory once suggested that aggression was dichotomous and could be categorized as either instrumental or hostile aggression. Instrumental aggression refers to aggressive acts which are premeditated or used to achieve a goal; think about a toddler pushing over a friend as a ploy to take that friend’s brownie. Hostile (or angry) aggression on the other hand, is impulsive, and the behavior is performed for the purpose of inflicting harm, perhaps even deriving pleasure (Buss, 1961). Consider the toddler again, but this time when the friend is pushed, the toddler laughs and walks away without a brownie.

⁵² Fight or Flight refers to when a person or animal reacts to danger by either preparing to fight against the threat or run away from it.

Although the instrumental-hostile theory has recently been critiqued as being too limiting for the complexities of aggression (Bushman & Anderson, 2001), the theory has become a base for understanding on aggression and applies in interesting ways to our discussion of superheroes. A professor at California State University, Dr. Chuck Tate, pointed out that most superheroes engage in instrumental aggression, while their villain counterparts tend to lean more to the hostile aggression side (2008).

The reason people tend to root for the superhero over the villain may relate back to whether the aggression is justified. In one research study by Lagerspetz and Westman (1980), participants were given a variety of situations where aggression was used and asked to rate how justified the aggressive behavior was. Altruism (which in this study meant protection of another person) as a motive was the most highly justified method, with self-defense following after. Superheroes, who dedicate their lives to saving others from danger, often fall into this category of altruistic aggression, which could very well explain why we don't mind seeing them pack a punch. Rated least justified in the study was aggression caused by emotional factors (i.e. "when drunk," or "when angry"), which is behavior more akin to the villain. The type of aggression also plays a role in how much the behavior is justified; killing and torture are understandably less justified than threatening or shouting. For this reason, many of the superheroes who choose not to kill, such as Daredevil⁵³, may be more popular.

In fact, there is something to be written about the complex morality of different superheroes. In the Marvel cinematic universe, Dr. Strange tries not to kill anyone. This is easily

⁵³ Many people would put Batman here as one of the superheroes who does not kill. This has often been true, but the character originally had no moral vendetta against killing and has recently reverted back to that mindset. Many heroes with the oath not to kill have done so at some point, such as Superman killing Lex Luthor in the *Justice League* TV show, *Superman II*, *Smallville*, *Man of Steel*, and several comics. Daredevil has also accidentally killed, for example, in the *Man Without Fear* comics. It was later rewritten that the woman survived and became Typhoid Mary.

tied to his history of being a doctor, where he probably took the Hippocratic Oath. Physicians have historically taken this oath, to swear by many things, one of which is a promise to “tread with care in matters of life and death.” The Punisher, who chooses to kill the bad guys, once suggested, “Nobody got hurt that didn't deserve it,” after debating with Daredevil, who has a much different approach. What is interesting, however, is that superheroes, even the Punisher, usually do not hurt innocent bystanders, not even by accident⁵⁴. This is part of what sets them apart from the villains, and why many people rally behind them instead.

Going back to the psychological research, a superhero style of aggression seems to fit in well under that branch of “justified aggression,” so it makes logical sense why we tolerate their aggression more than the aggression displayed by the supervillain. The results of Lagerspetz and Westman’s 1980 study feel intuitive to most people, because many people have thought, “we *should* protect those around us with whatever means necessary.” Because of that type of thought process, it is likely you were not surprised when reading about the differences in approval. What *is* surprising, however, is that some literature suggests that violence with a justifiable motive actually arouses more aggression than violence with an unjustifiable motive (Berkowitz & Geen, 1966; Berkowitz & Rawlings, 1963; Dill & Dill, 1999; Geen & Stonner, 1973, 1974). This has to do with a theory that when violence is justified, it weakens the inhibitions against violent behavior (Dill & Dill, 1999). But what exactly could be going on to “weaken inhibitions?” How could something so counterintuitive be true? The answer requires another lesson in the nervous system. This time, we get to focus a little bit more on the prized jewel of psychology research, the brain.

⁵⁴ In many movies, such as the Avengers, or Man of Steel, there is a lot of destruction of the surrounding area during a climatic fight. It would be difficult to argue that no innocent bystanders were fatally injured in the process. Importantly, you’ll notice that the movie will never actually show anyone getting harmed by the actions of the superhero, so you are left to hope that the building that just crumbled was empty.

If you were to touch the area just above your ears, your hands would be on top of a section of the brain called the temporal lobe. Deep inside this lobe is where the amygdala sits (Bailey, 2018). Despite its small size⁵⁵, the amygdala has been a center of attention for scientists due to its label as a “front-line emotional responder” (Jacobs, 2008). The amygdala serves many emotional functions, including fear, anger, and aggression (Archer, 2013), and fires up when we witness violence. Conceptualize the amygdala like a dog who sees a stranger at the door and starts wildly barking and jumping. Maybe the stranger is a perfectly friendly mailman, or maybe they are a dangerous intruder. The dog doesn’t know, it will just bark at anyone who comes by, and it’s up to the rest of the household (brain) to make sense of the situation.

Now imagine that whomever lives with that dog goes and checks the door. If the stranger really is threatening, then the dog may be allowed to continue barking. However, if the stranger is an old acquaintance, the person in the house may tell the dog to quiet down. If the dog is the amygdala, then its human companion would be the orbitofrontal cortex. The orbitofrontal cortex is located just above your eye sockets and mediates some of the amygdala’s reaction.

Repeated exposure to media violence would, metaphorically, be like a continuous stream of squirrels running by the door. The dog will still bark, but the person in the house may not check the door as much, because “it’s probably just another squirrel.” This dynamic suggests that as people witness more violence, the inhibitory signals put off by the orbitofrontal cortex start to weaken (Jacobs, 2008).

So, if exposure to violence is changing how our brain fires and weakening our defenses against violent behavior, we are left to the burning question, “Are we *that* affected by the violence we see?” The evidence is clear that violence has some kind of effect on us, but how

⁵⁵ The amygdala was named after a Greek word for “almond,” due to its shape and size. As research continued on the structure however, it was found to be more than just that initial almond-shaped discovery.

large is that effect? After all, there are a lot of superhero fans out there, and many of them aren't violent people. So, should you feel guilty for enjoying the Hulk smash his opponents into the concrete? Does it really change you *that much* to watch the beat-them-up climax of *The Avengers*, or play the DC-based fighting game, *Injustice*? A lot of science and history surrounds this very topic, so it is only fitting that we delve into the material a little more.

The Burning Question

There is no doubt that technology and media have changed vastly over the past century, and violence has been portrayed and protested the entire time. The debate on the effect of violence is not new, and decades of research have gone into the subject. Superheroes, while not the only source of violent entertainment, have historically been a subject of criticism because of it. Although you could examine events further back, a good starting point for the violence debate (as far as superheroes are concerned) would be 1948.

In 1948, the distinguished psychologist, Fredric Wertham came out against comic books publicly in an interview titled "Horror in the Nursery," which was published the Chicago Daily News. In the interview, Wertham said, "The comic books, in intent and effect, are demoralizing the morals of youth. They are sexually aggressive in an abnormal way. They make violence alluring and cruelty heroic." Although this sounds extreme now, Wertham was not alone in his opinions⁵⁶. In late 1948, several mass comic book burnings took place, most notably in Spencer, West Virginia and Binghamton, New York (Hajdu, 2009).

In 1954, Wertham expanded his argument into a book entitled *Seduction of the Innocent*. In this book, Wertham argued that comic books were corrupting the youth, even going so far as

⁵⁶And some comics really did fit this description, particularly comics of the crime and horror genres.

to say that they cause juvenile delinquency and drug use. Although superhero comics were not the only comics at the time, Wertham put them in the same category as the crime comics and the gruesome horror comics. Superman, for example, promoted fascism. Wonder Woman is “a frightening figure for boys” and “the exact opposite of what girls are supposed to want to be.”⁵⁷ All in all, the message was loud and clear: comic books, including superhero ones, promoted violence and deviant behavior. The message was, in fact, so loud and so clear that the book resulted in a major hit to comic book industries, and the creation of the Comics Code Authority, which banned violent images, words, concepts, and maintained that criminals must always be punished (Coville, n.d).

Dr. Wertham’s evidence came from a series of children he worked with at his low cost mental-health clinic in Harlem. Many of the children were avid comic book readers, and through use of Rorschach tests⁵⁸, Thematic Apperception Tests⁵⁹, and extensive interviewing, Wertham wrote about many cases of children being led astray by comics. However, *Seduction of the Innocent* is not a perfect answer for the relationship between exposure to violence and behaving in a violent way. For one, the methods detailed in the book may be affected by what is known as “confirmation bias.” Confirmation bias refers to the human tendency to select information that “confirms” a personal belief (Nickerson, 1998). In this circumstance, Wertham may have focused more on a child’s comic book habits, lending him to neglect other essential information, such as parental abuse. Additionally, a recent review of Wertham’s materials by Dr. Carol Tilley has suggested that some of the information presented in *Seduction of the Innocent* may have been exaggerated, misrepresented, and possibly falsified (Itzkoff, 2013).

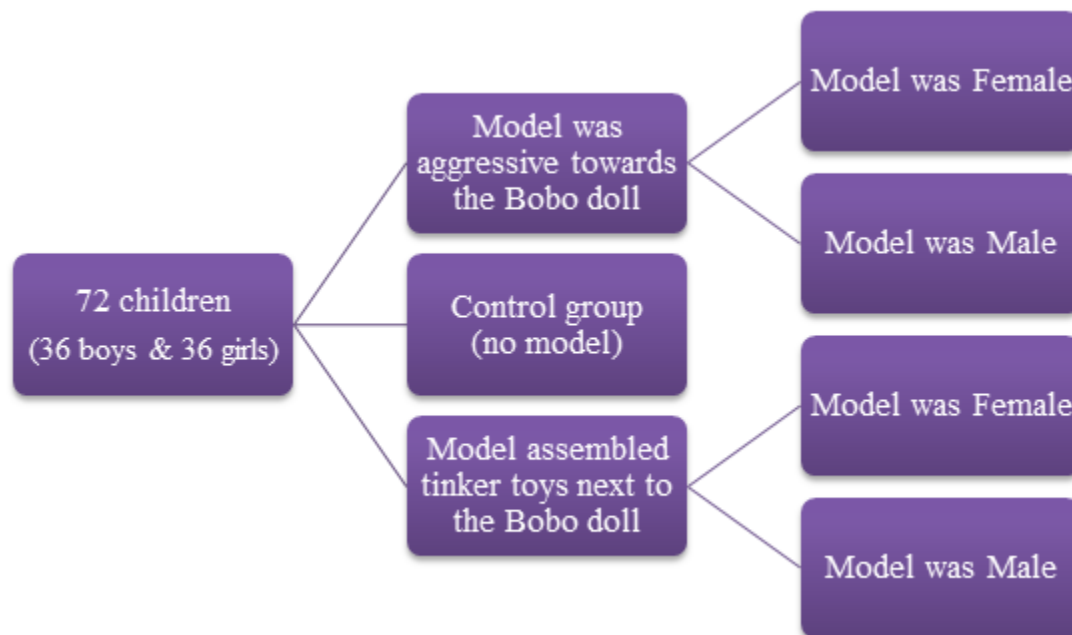
⁵⁷ Additionally, Superman “gives children a completely wrong idea” of basic physical laws such as gravity.

⁵⁸ The test you imagine in the stereotypical psychologist scenario, where the old man behind the desk asks “What does this ink blot remind you of.”

⁵⁹ A subject is shown an ambiguous image and asked to make up a narrative.

The discussion on violence does not end with Wertham's compromised data, but rather it only segues into more topics, more theories, and more media outlets. One especially important study came about in 1961, and was conducted by the prominent psychologist, Albert Bandura. In his most famous experiment, Bandura brought 72 children between the ages of 3 and 6 into his research lab. Bandura wanted to test whether aggression could be learned through observing the aggressive acts of someone else. He put the children into a control condition, where there was no model present, or into an experimental condition. The experimental conditions differed depending on the gender of the model, and whether the model was aggressive towards a Bobo doll⁶⁰ (see Figure 1).

Figure 1. *Conditions in Bandura's Study*



⁶⁰ A Bobo doll is an inflatable clown that returns to an upright position whenever it is knocked over.

Bandura found that when children watched a model behave aggressively towards the Bobo doll, they were more likely to imitate those acts of violence. Additionally, those children were more likely to try out novel acts of aggression, in other words, things that were not showcased by the model. An example of this would be when a child began shooting the Bobo doll with a dart gun. Some differences arose between genders: when boys witnessed a male model being aggressive, they were more likely to physically imitate the behavior than girls⁶¹. Albert Bandura's study was not the first to show that children can learn behavior through observation (Bandura & Huston, 1961; Blake, 1958; Grosser, Polansky, & Lippitt, 1951), but it would become a cornerstone for the modern debate of violence in media.

Currently, the debate on the effects of observed violence is still being debated, especially when it comes to children. Although you can find research supporting both sides, there are several negative consequences of violence that tend to be supported consistently. The American Psychological Association suggests that there are three major effects of watching violence in the media:

- Children may become less sensitive to the pain and suffering of others
- Children may be more fearful of the world around them
- Children may be more likely to behave in aggressive or hurtful ways toward others.

In drawing a conclusion, it is important to consider is that much of this research is done on broadly defined concepts of violence, and not necessarily violence specific to superheroes. Surely superheroes, with their justice-seeking ways and strong moral compasses, could teach

⁶¹ Although both genders were equally likely to demonstrate verbal aggression.

children to help, not harm, others? Maybe kids who are exposed to those types of role models instead learn to stand up for those who need it, right?

Maybe not.

Superhero culture might not do an incredible job of teaching children to help others. One study investigated whether superhero programs changed the likelihood of a preschool-aged child behaving aggressively, prosocially, or defensively (i.e., defending a classmate from getting bullied). Researchers found that after a year, children who watched superheroes had higher levels of aggression than the other children, even when accounting for the child's previous aggression scores. Meanwhile, the children showed no difference in prosocial and defensive behaviors (Coyne et al., 2017).

These results do not outright suggest that superheroes make people aggressive, but rather that children at such a young age appear to be more vulnerable. Children in preschool are still forming mental categories and patterns of thought (called schemas) regarding how they should behave in a social environment (Huesmann et al., 2003). But since children are simply more vulnerable to imitating behavior, many children can witness superhero violence and not be affected by it in their adult life. Allow me to tell a personal anecdote.

When my brother was younger, my parents bestowed upon him an arsenal of action figures. Of these, the ones I coveted most were his Batman and Robin action figures, along with their nemesis, the Riddler. I remember stealing the toys out of my brother's room and acting out elaborate battles with the characters. Justice was not kind to the Riddler though. He got thrown against a wall so hard that his torso popped open and his appendages scattered across the room. I did what any reasonable child would do: I said nothing. Instead I snapped poor Riddler back

together, put the action figures back in my brother's room, and pretended I had never touched any of his toys in my life.

Fortunately, my childhood violence towards the Riddler has not been indicative of how I behave as an adult. This supports the popular counter-argument for whether violence makes people violent: if exposure to violence *does* make someone more violent, then wouldn't there be a swarm of video game playing, superhero-loving delinquents? There are *many* children exposed to violence in video games and movies, but fewer children actually go out and commit crimes because of it. This starts to hit at a fundamental concept of research: outside of a carefully controlled laboratory setting, it is actually very difficult to prove whether one thing *causes* another thing. After all, some behaviors, such as aggression and violence, have many contributing factors. Instead, research usually must take a suggestive tone. This means that although you usually cannot say that one thing causes another thing to happen, you can say that one thing relates to an increase or decrease in the occurrence of another thing. Anyone who had to take a statistics course may remember the phrase "correlation does not equal causation," which means that the existence of a relationship between two things does not automatically mean that one thing causes the other.

So even though research can suggest that children exposed to violent programming may be more aggressive, we cannot say that it is the exposure that causes it. There could be something else may be going on. Maybe the type of children who are more likely to be aggressive are the ones who seek out superheroes. Maybe parents who allow their child to see violent things at an early age may raise their child differently than parents who do not. These 'maybe's and 'what if's really complicate the argument.

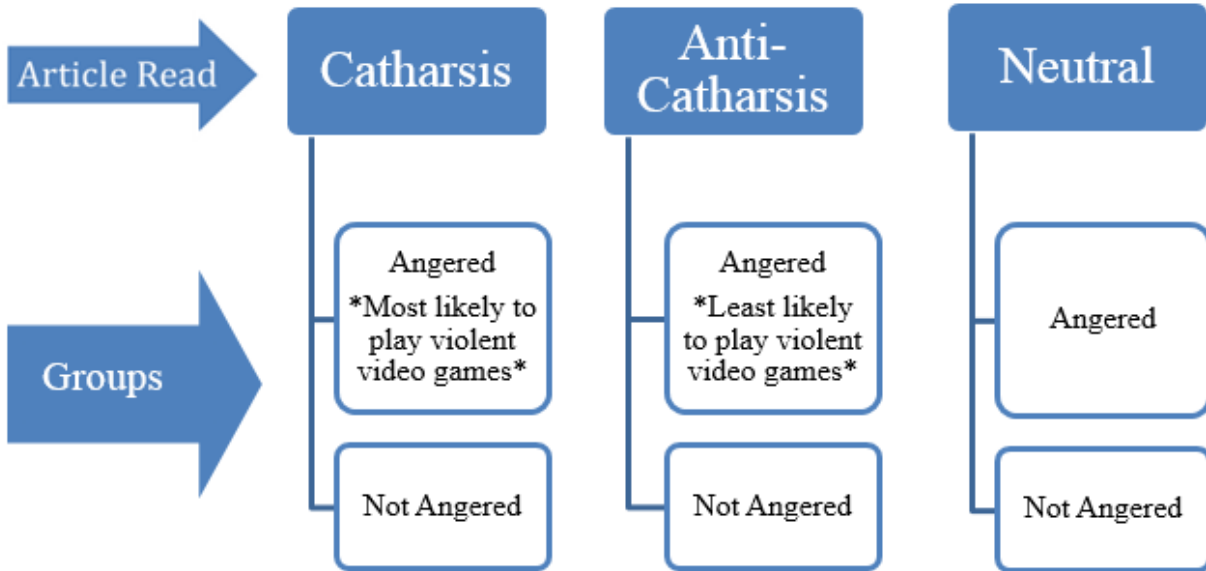
Additionally, it is a lot easier to say that something is *not* true than to say that something *is* true. Let's say I made the statement, "No superhero has ever hurt an innocent person." To prove that it was true, I would have to look at every single superhero story (TV show, comics, movies, video games, etc.) and make sure that no innocent person was ever harmed. If I wanted to prove the statement wrong, I only need to find one counterexample. There are many things in psychology, and science in general, that were once thought to be true, but were later found to be false.

Some people still make an effort to prove the falsity of the claim that violence exposure causes violence. Another popular argument justifying violence in some form is catharsis. Catharsis is based on the Freudian principle that emotion (usually anger) is something that is suppressed by an individual, and therefore, builds up like a shaken soda bottle. In order to avoid an explosion, the individual should release that emotion in small amounts, similar to cracking the soda bottle cap to let a little pressure out, before closing it again. Those small releases would be catharsis. The catharsis argument suggests that playing a violent video game would get aggressive urges "out of the system," and prevent a person from acting on their anger in the real world, where there are real consequences. Unfortunately, the data do not support catharsis as a method of reducing aggression. Some research even suggests the opposite, that allowing someone to act out aggression increases their anger (Bushman, 2002).

Although research has displayed ample evidence against catharsis, many people still actively seek it out. This suggests an alternative argument to why people like to watch their favorite superhero serve justice to the bad guys... not because it is an *actual* outlet for their aggression, but because it may be perceived as one. If a person can't beat up the mean bully at school, maybe they think it would help to see Spiderman take down a different bully instead.

One study suggests that a belief in catharsis leads angry people to be more attracted to violent video games (Bushman & Whitaker, 2010). To arrive at this finding, researchers made participants read one of three articles: one which refuted catharsis, one which supported it, and another that was completely unrelated⁶². Next, the researchers made participants write an essay about a time where they were really angry. In half of the participants, the researcher would return the essay with a note “This is one of the worst essays I’ve read!” The other half of the participants got feedback that said, “This is one of the best essays I’ve read!” Those who received the negative feedback were angry afterwards, but unaware that this was all part of the study’s manipulation. Afterwards, participants completed a were asked to rate fictitious video games on how much they wanted to play them. In the end, angry people were more likely to want to play the video games with violent descriptions, but only if they read the article supporting catharsis. Interestingly enough, angry participants who read the anti-catharsis article were *less* likely to want to play violent video games than any other group. Here’s a chart to help you better visualize the study.

⁶² Which served as a control.



Long story short, if you think that catharsis is an effective coping strategy, you may be more likely to seek out violent video games than those who do not believe catharsis is effective. With this study in mind, I'll leave you to hypothesize whether people seek out violent movies and comic books for the same, catharsis-based reason.

Although evidence fails to support the counterargument that violence is a form of catharsis, this still does not mean that exposure to violence *causes* people to become violent. As I mentioned earlier, proving causation without a doubt is a tricky thing to do in research. Instead, researchers can redirect their attention from what factors *cause* violent behavior to what factors *influence* the likelihood of violent behavior. There are many risk factors to aggressive behavior in youth, including, but not limited to (Ribeaud & Eisner, 2010):

- Being male
- Watching adult television
- Low school commitment
- Lack of a biological parent
- Poor relationship with family (especially siblings)

- Parenting style
- Low popularity and bullying

Someone who has more risk factors may be in a more vulnerable place and may react differently to violence than those who have less risk factors. The extent to which someone is influenced by violence largely depends on the reaction to the violence. It was suggested that there are at least five reactions to violence that suggest that the exposure may be having a negative influence (Aronson, Wilson, & Akert, 2007, p. 346):

1. Thinking that when others are violent, it permits you to be violent as well
2. Taking note of how to imitate aggressive tasks
3. Interpreting daily stress as genuine anger
4. Becoming desensitized to violence, such that it no longer bothers you
5. Thinking that the world is a dangerous place due to the exposure, and therefore taking more hostile action to be protective

It can be difficult to determine whether someone (or even yourself) is being negatively impacted by violence. Even if you suspect that violence exposure has a causal influence on behavior, there are so many additional factors that also influence behavior (including those “vulnerable” characteristics mentioned earlier). In Chapter 4, I briefly talked about vulnerable populations imitating behavior demonstrated by a favorite villain. These real-world situations act as a good example of the first two reactions listed above.

There is still a lot to be understood about violence and its effects on us, but that’s a discussion that is much bigger and much broader than the subject of superheroes. Maybe it’s better just to remember the words of Wonder Woman, who once said, “Don’t kill if you can

wound, don't wound if you can subdue, don't subdue if you can pacify, and don't raise your hand at all until you've first extended it."

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Chapter 7

Diversity Behind the Mask:

AKA the Good the Bad and the Ugly

“Now, more than ever, the illusions of division threaten our very existence. We all know the truth: more connects us than separates us.”

-T’Challa (Black Panther)

Black Panther, 2018

Diversity is a catch-all term for proper representation of the variety of subsets of individuals. These groups reflect differences in gender, race, age, sexual orientation, religious beliefs, political affiliation, socioeconomic status, and physical ability. Diversity is important in the workplace, educational systems, and media because it allows these institutions to incorporate a wider variety of experiences and contributions that individuals have obtained because of the circumstances of their birth, upbringing, and choices.

In the workplace, innovative companies that include women in top leadership positions are worth \$44 million more than companies who don’t (Dezsö & Ross, 2012). In the educational system, racial diversity benefits both minority and non-minority students (Hawley, 2012). In the media, exposure to TV characters who are part of the LGBTQ+⁶³ community helps audience members break down biases (Tisdell & Thompson, 2007). All things considered, diversity is not only important, but beneficial. Because of this, one would expect that comic book companies would want to incorporate more diversity. By doing so, they dip into the pool of distinct human experiences and help to provide role models that “are just like me,” or promote understanding for characters who are different.

⁶³ This acronym stands for Lesbian, Gay, Bisexual, Transgendered, Queer/Questioning, and the plus includes everyone else who may fall in this umbrella but isn’t explicitly mentioned. For example, intersex and asexual individuals would be represented.

When it comes to superhero portrayal, diversity can be encouraging to people of various backgrounds. We all want a hero we can relate to, and research suggests that we relate best to people who represent us. But when you think about some of the most profitable superheroes, Spiderman, Iron Man, Batman, and Superman, you find a history of heterosexual white males. If you fit that category, then that's fine, but if you don't, it becomes a little harder to find a superhero that you relate to.

So, what's the history behind inclusivity in comic books, and what's being done now to give everyone a face to relate to? This chapter seeks to take a Clint Eastwood spin on some aspects of representation in the superhero world, and investigate the *good*, the *bad*, and the *ugly* side to comic book portrayals of diversity.

Crime Fighting in Stilettos

The Good

Superheroines are inspirational to the modern-day woman. Take Wonder Woman, for example. One of the earliest superheroines, and the one of the first female superhero to earn a starring role on a big budget movie⁶⁴ she has become a trailblazer feminist icon and device for social activism. At one point she was even an honorary U.N. ambassador for female empowerment and raising awareness about gender-based violence⁶⁵. Part of her success comes from the fact that she defied traditional female roles of her time and provided a role model that was more than a submissive, tender housewife. The creator of Wonder Woman, Dr. William

⁶⁴ Wonder Woman (2017), directed by Patty Jenkins, is one of the top grossing films directed by a woman. Previous female heroes who made it on the big screen include Supergirl (1984), Catwoman (2004), and Elektra (2005).

⁶⁵ This project ended after criticism brought forth a petition with 45,000 signatures. This petition suggested that, "It is alarming that the United Nations would consider using a character with an overtly sexualized image at a time when the headline news in United States and the world is the objectification of women and girls," and that her image was "not culturally encompassing or sensitive."

Moulton Marston,⁶⁶ fully intended Wonder Woman to be a role model to young girls, and once said: “Not even girls want to be girls so long as our feminine archetype lacks force, strength, and power.”

Wonder Woman’s existence has been a rollercoaster of conflicting ideals for women (due to the progressive differences in the men that wrote the comic book issues), so she has represented a muscular warrior, a fashion and marriage enthusiast, an ordinary woman, a demigod, and a sex icon, among other things. However, her success ultimately set into motion a trend of creating strong female heroines that could defy traditional stereotypes⁶⁷ regarding gender norms.

Defying traditional stereotypes is important because in extreme cases, these stereotypes can manifest in discrimination and prejudice against a person based on their biological sex. A study involving 15,000 people in 19 different nations found two basic forms of sexism, hostile and benevolent. Hostile sexism relates to a thought process that attaches negative attributes to women. With hostile thought, women are and should remain inferior to men because they are not as strong, brave, intelligent, capable, etc. (Glick & Fiske, 2001). Heroes such as Wonder Woman directly challenge this line of thought, by portraying women as fierce, independent, and equally matched to their male counterparts.

Benevolent sexism, on the other hand attaches positive attributes to women, such as suggesting women have a kind, motherly nature. Benevolent sexism doesn’t sound as terrible, but its presence is a strong predictor of gender inequality in a society (Glick & Fiske, 2001). This

⁶⁶ Dr. William Moulton Marston was actually a psychologist himself, as well as an inventor. His work included the contributions to DISC theory (one explanation for behavior and personality) and the development of a polygraph machine (lie detector)-which may explain Wonder Woman’s Lasso of Truth.

⁶⁷ Stereotypes are generalizations made about an entire group of people. Although they are the product of a cognitive ability to create schemas and sort information into categories, stereotypes can be harmful because they ignore the variation between individuals of the group.

is because the ideals can turn into patronizing attitudes that reinforce conformity to traditional gender roles. For example, because women are so much more nurturing, they should be the one to take care of the children, or because women are so gentle, they cannot fend for themselves. Benevolent sexism not only unfairly romanticizes women, but also inadvertently pushes negative stereotypes on men, suggesting that they are therefore more arrogant, aggressive, corrupt, and so on.

Exposure to stereotype-defying female leaders can help reduce these sexist ideations, and higher frequencies of exposure further provide for long-term change in stereotypes (Dasgupta & Asgari, 2004). In this way, we can raise a tribute to Wonder Woman, Black Widow, Storm, Captain Marvel, Supergirl, Black Canary, Batgirl, and many more for providing examples of powerful female role models. Because these women are evidence that gender doesn't affect your ability to save the world, they simultaneously bring *our* world a little bit closer to equality.

The Bad

Considering that higher frequencies of exposure to gender-atypical women help reduce prejudice, the more we showcase strong women, the more we fight stereotypes (Beaman et al, 2009). However, women are underrepresented in the more action-packed settings, and this includes the world of superheroes. Let's look at the Avengers, for example, which is the top earning superhero franchise out of both Marvel and DC. In the original comic book squad (*The Avengers* #1, 1963) there was only one woman in the team of six, a character named Wasp, who was less concerned with crime fighting as she was with attracting Ant-Man's attention and commenting on the "dreamy males." To her credit however, Wasp contributed by naming the Avengers in that original issue.

The Avengers are not the only team to underrepresent women; we see this trend in the other superhero squads. Originally, there were no women in the Justice Society of America (predecessor to the Justice League). Wonder Woman was later included, but as a secretary (*All Star Comics #11*, 1942). The X-Men original team had their token female as well, with the inclusion of Marvel Girl (more famously Jean Grey/Phoenix, *X-Men #1*, 1963). The Fantastic Four had the highest ratio of women to men in its debut, since having a single woman at least meant it was 25% female (*The Fantastic Four #1*, 1961).

If you noticed, all of these crime-fighting teams debuted in the 1960s or earlier, so maybe it's no surprise that women were not well represented. However, decades later we still don't have a representative population of superheroes. One study conducted in 2007 found that out of 70 superheroes featured in 44 different animated cartoon television shows, males outnumbered females 2 to 1 (Baker & Raney, 2007). Although this is an improvement from the 3 to 1 (or lower) ratio seen in the crime fighting teams in the sixties, it's a small difference when you consider that about half a century passed between this study and the silver age of comics⁶⁸.

Part of this has to do with Marvel and DC prioritizing a male market. Although from a business standpoint, it is unwise to purposely exclude half of the potential market, it's still being done in recent times. The best example of this occurring was in 2013, when the TV show *Young Justice* was canceled. The show was incredibly popular, with girls, boys, and parents all tuning in on Saturday morning. However, the show was ultimately canceled. In the words of television producer Paul Dini, "I'd say, but look at the **numbers**, we've got parents watching, with the families, and then when you break it down—'Yeah, but the—so many—we've got too many girls.

⁶⁸ The Golden Age of Comics is widely considered to begin when Superman debuted, and lasted until about the mid 1950s. The Silver Age of comics starts consecutively and ends around 1970. Afterwards we have the bronze age and modern age.

We need more boys... Boys buy the little spinny tops, they buy the action figures, girls buy princesses, we're not selling princesses” (Demby, 2014).

Since companies are writing off the female audience in favor of male ones, it's no surprise that the female characters tend to be created in more stereotypical ways. Baker and Raney's (2007) study found that the superheroines tended to be portrayed as more emotional, more attractive, less tough, and more superficial than their male counterparts. Returning to the concept of gender stereotypes, some of these attributes have sexist overtones. For example, depicting female superheroes as less tough could fall into a hostile sexism category, while depicting them as more emotional could fall into benevolent sexism. These overtones could potentially reinforce stereotypes, instead of defy them, and ultimately hurt the initiatives to empower women.

The Ugly

In this case, we are literally talking about the ugly, or rather the lack thereof. As mentioned above, women tend to be depicted as very attractive compared to their male counterparts. In fact, when considering prominent superheroines, it is nearly impossible to think of one that is remotely unattractive. This isn't limited to just the heroines either, even female villains tend to be curvaceous and sexually appealing (e.g. Poison Ivy). In addition, there was bad literary treatment of female characters who didn't fit that curvaceous, yet small bodied mold. Just ask Fatsis or Etta Candy. Both characters appeared in the Wonder Woman Comics. Fatsis was one of the larger Amazon women, and despite her strength was described as a “two-ton grease heap” (Wonder Woman, #1). Etta Candy had a larger role in the comics, often portrayed as Wonder Woman's best friend. She showed that a bigger woman could be still be awesome; she

was a confident woman, an excellent leader, and a strong fighter, even saving Wonder Woman's life on occasion. However, despite the fact that Etta has earned a place as an "Honorary Amazon," the Amazons first reacted to her with shock, saying "this girl is sick — her body mass grotesquely distorted." She was also written with a couple of cringe-worthy lines, such as "I owe all my success to candy," and a battle cry of "for the love of chocolate!"

In an interesting study about body shape and heroism, Johnson, Lurye, and Freeman (2008) examined the Pixar movie *The Incredibles*. Body measurements for Mr. Incredible and Elastigirl were compared to their civilian personas, Bob and Helen Parr, to see if body shape characterized heroism. They measured two different ratios, the chest-to-waist ratio (CWR) and the waist-to-hip ratio (WHR). For women, the hourglass figure is perceived to be the most feminine and is related to perceptions of attractiveness. Therefore, a small WHR would be indicative of a figure that is closer to this beauty standard. For men, the V-shaped torso is related to perceptions of masculinity and is marked by a higher CWR. The study compared the bodies of the Incredibles to the ratios found in real-life U. S. Army recruits, with the assumption that Army recruits are close to real-life superheroes. They found that Bob and Helen Parr had relatively normal ratios. However, as soon as they changed into Mr. Incredible and Elastigirl, their proportions exaggerated to ones not found in the real-world sample.

As a continuation of this premise, I chose to examine the ratios of other comic book characters, to see if they displayed the same body type bias. Because superheroes are drawn by a variety of artists, and there can be variation within the artist's work, I chose an image from each character's debut comic, and one from a more recent work. The images were carefully selected so that the character was angled at the audience, standing straight, and portrayed as their superhero persona, not their everyday alias. For fun, I chose to incorporate the body

measurements of the Barbie Doll, her male counterpart, Ken, and the measurements of Playboy Centerfolds.

Figure 1. Superhero Body Ratios: Female

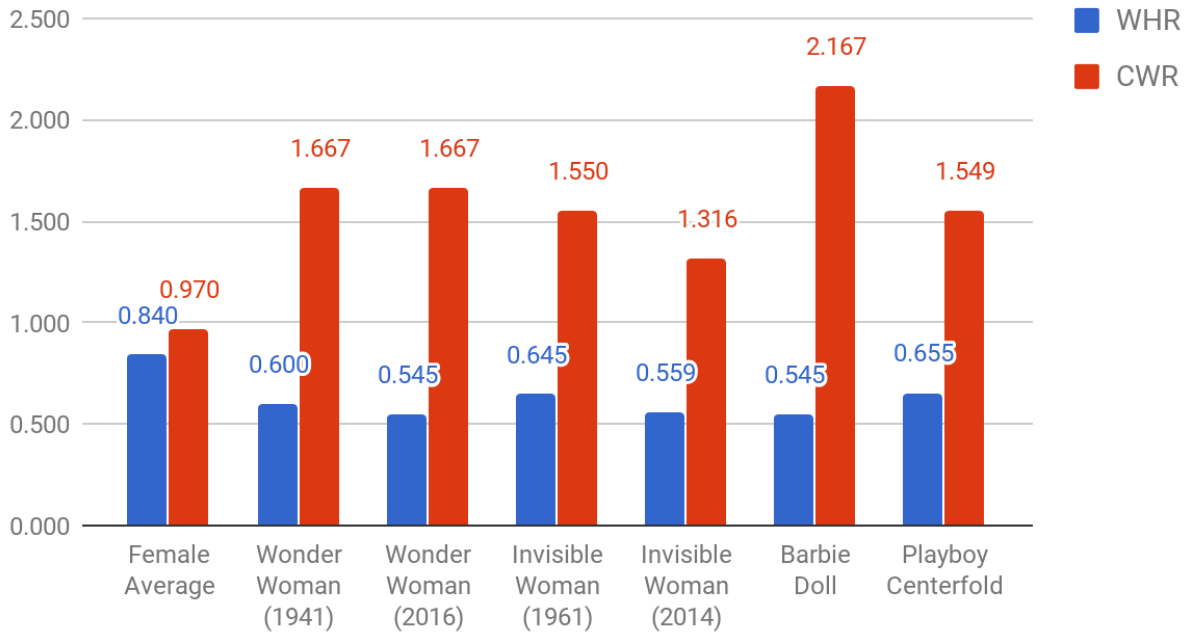
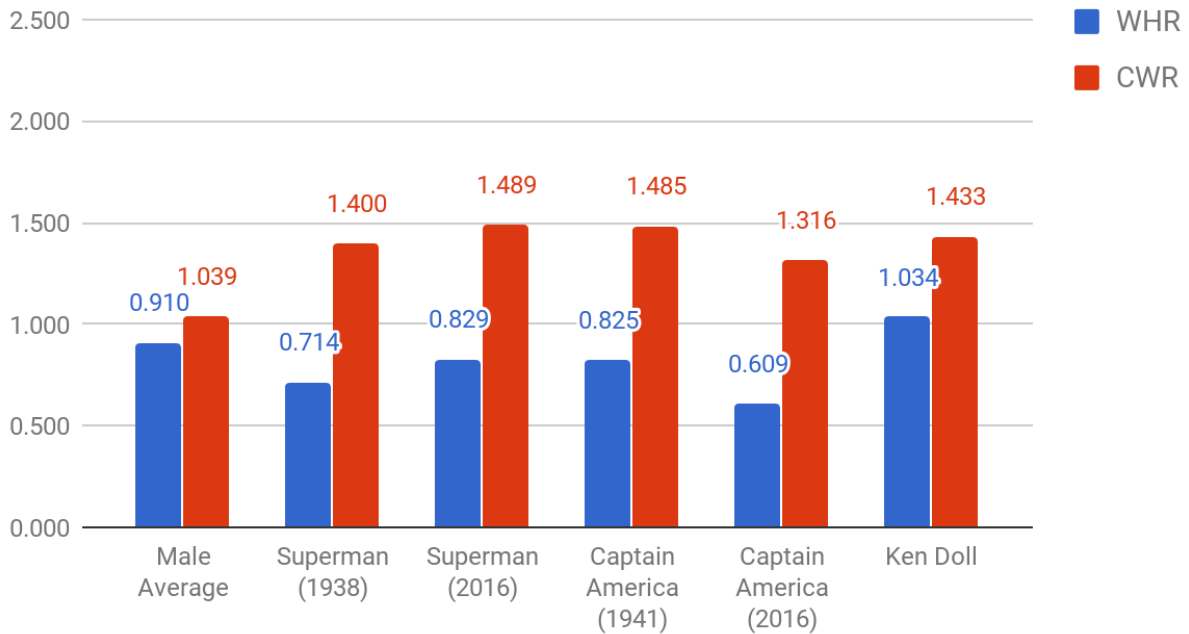


Figure 2. Superhero Body Ratios: Male



This data all suggest that in men and women, there is some skew in the representation of the body. However, there is a difference in what that skew represents for each biological sex. The physicality of male heroes exists to emphasize their masculine strength, giving them massive pectorals and trimmed abs. Conversely, the physicality of female heroes seems to emphasize their sexual allure, giving them tiny midsections and striking curves. These distortions can function as artistic representation of certain ideals and traits but can also be harmful for those who wish to look like their hero. Men for example, can feel intense pressure to be overly muscular, in extreme instances even developing Muscle Dysmorphia.⁶⁹ Women may feel pressure to have a smaller waist, and can be more likely than men to practice dangerous measures to achieve a lower weight (Klesges, Mizes, & Klesges, 1987).⁷⁰ While body distortions in superheroes is by no means the cause of these behaviors, they are an example of a small influence that has a potential to make a subtle lasting impact.

Focusing for a moment on the heroines, in Figure 1, it's interesting to see the proportions of Wonder Woman and the Invisible Woman are not too far from a Barbie Doll, especially with the WHR. This means that in some cases, Barbie had more of a "hero figure" than did an U. S. Army cadet. More interesting, however, is that the closest real-world sample to our lady superheroes happens to be a 20-year collection of women featured as the monthly Playboy centerfold⁷¹ (Garner, Garfinkel, Schwartz, & Thompson, 1980). This connection is made more

⁶⁹ According to the DSM-5, this is a specifier of Body Dysmorphic Disorder (BDD) that involves a preoccupation that the body is too frail or too small, even in instances where the person has built up to be quite muscular. Often times this can go unrecognized, as the person may not want to admit that they may have a problem, let alone get help for it. However, Body Dysmorphia is very real and very serious, and deserves treatment and support, otherwise those affected may have poorer quality of life, higher rates of substance use, and higher rates of suicidality.

⁷⁰ These dangerous measures can include substance use (such as laxatives, caffeine pills, cigarettes, etc), fad dieting, excessive exercising, waist training, and more. Although a desire to be thin is linked to a higher risk for eating disorders, it's important to note that not all of cases are the result of trying to achieve a thin ideal, but rather a complex relationship with control (Tiggemann & Raven, 1998).

⁷¹ I also looked at the WHR and CWR of the average woman, as well as of models and athletes.

interesting by the fact that Wonder Woman's creator, William Marston took artistic inspiration from the Varga Girl centerfolds that appeared in the *Esquire* magazine. This helps explain why Wonder Woman's costume showed so much skin for its time. At first it seems strange, even impractical, to model these women after bombshells when they themselves should be defending against *actual* bombs. So why exactly are these ladies created to be so sexy? Do wide hips allow for stronger kicks? Does a miniature waist make it easier to dodge? Do voluptuous bosoms deflect bullets? Maybe... but probably not.

The answer involves gender stereotypes and typicality. When Supergirl shows bravery in the face of her enemy, or when She-Hulk smashes through a concrete barrier, these women are showing traits that are considered masculine. Since sex is a large component of how we categorize humans, writers try to "balance" feminine and masculine traits, ensuring that the character aligns with gender-typical behavior. This balancing act compensates for giving women more masculine character traits by "ultra-feminizing" their physical appearance. Unfortunately, this not only reinforces unrealistic expectations of the female figure, but it also sends a message that societal beauty standards dictate how a woman's power is perceived.

Capes Come in Many Colors

The Good

It's impossible to discuss diversity without including the representation of different racial and ethnic backgrounds. Unfortunately, many people today are still judged initially by the color of their skin. Prejudice is harmful to the victims and the perpetrators and remains to be a toxin that has not yet been purged from society. There are many opportunities to reduce stereotypes

and discrimination; they exist in the education systems, the workplace, the media, and yes, even in the fine print of a comic book.

With a sound mind, I can't suggest that the cure to racism is hidden in the fictional world of superheroes. That's just not true. However, as expressed earlier, it's important for people to witness amazing things done by someone they can relate to physically. Additionally, having these diverse characters may help the people who retain prejudices against racial outgroups. According to the American Psychological Association, some of the ways to overcome prejudice are intergroup contact, recategorization, and inducing empathy for outgroup members. In a way, having representative superheroes works towards these goals.

Let's look at the first of those strategies, intergroup contact. Intergroup contact seems simple at first: when you have positive interactions with someone who is in a different group than you are, it can reduce biases that may exist between the groups. In real world, intergroup contact theory is little bit more complex. This is because there are four specific conditions necessary for intergroup contact to productively reduce racism. These four conditions are:

1. The groups must have equal status in the situation.
2. There must be a common goal for everyone to work towards.
3. Cooperation should exist between the groups
4. Outside influences (authority figures, laws, culture, etc.) should be supportive (Pettigrew, 1998)

Superheroes provide an excellent example of intergroup contact; all you have to do is examine the way their teams work. The Avengers, Justice League, Teen Titans and the X-Men are all crime-fighting groups that recruit the best of the heroes, regardless of differences in race. Consider the Justice League TV series from the early 2000s, which included John Stewart, the

first African-American superhero to appear in DC Comics⁷², and the replacement for Hal Jordan as the Green Lantern. The addition of John Stewart's Green Lantern made the Justice League more diverse, and the way the team works meets all four conditions for intergroup contact:

1. John Stewart is an equal to his super-peers.
2. Everyone in the league works hard to "save the day."
3. There is cooperation between John Stewart and the other members of the League.
4. Many people in the show look up to the Justice League and support them.

The Justice League and other superhero legions may not reduce racism in the real world, but they certainly may show us how to. These superheroes demonstrate that teamwork can be achieved, regardless of the differences in identities, a lesson many of us can bring to the situations that we participate in every day.

The next strategy, recategorization is all about putting different groups into one larger and more inclusive group. The group members should still be able to develop a dual identity (be able to maintain an ethnic or racial group identity in addition to the big-picture group identity), but recategorization allows for people to focus on the similarities rather than differences. Comic books allow us to look at a collection of people, representing every color in the rainbow,⁷³ and label them all as superheroes; or maybe to look at ourselves, and label us all as super-fans.

Inducing empathy comes naturally with good storytelling, and by representing diverse characters with stellar writing, the audience will naturally start to feel attuned to the challenges of someone who may not look like them (Shih, Wang, Bucher, & Stotzer, 2009).

⁷² John Stewart first appeared in Green Lantern #87 (1971). At this point, Marvel comics had already debuted the Black Panther and Falcon.

⁷³ Quite literally, when you think of heroes like Nightcrawler or Martian Manhunter, with blue and green skin respectively.

The good news is that DC and Marvel are starting to recognize that representation is important. More diverse characters are starting to appear, and some of the most iconic heroes are taking a spin as a character of another race. In the Marvel Cinematic universe, Nick Fury, a traditionally white character, was cast as Samuel L. Jackson. Spider Man has been passed from Peter Parker to the Afro-Hispanic, Miles Morales. Ms. Marvel has even been shifted to Kamala Khan, a teenage girl from a Pakistani Muslim Family. Many of these switches, in addition to the already established non-white characters, help to promote diversity in a positive way by exposing the public to the intelligent, brave, and fierce warriors that these characters embody.

The Bad

Although steps are being made to diversify our caped crusaders, there's still a lack of proper representation. Even when certain races are incorporated, it isn't always without stereotype. How many Asians do you see in comic books that aren't Kung-Fu masters, or skilled with a katana? Why hasn't a Hispanic superhero made it in the Cinematic Avengers or Justice League teams? Who can name a Native American superhero off the top of their head⁷⁴? So, yes, there is progress being made to highlight a more diverse superhero line-up, but if you ask people which superhero comes to mind first, there's a lot of white. Brian Michael Bendis, a famous comic book writer and artist, once said, "Sure, there are people who look like Captain America who read comics, but there are *very few people in the world* who look like Captain America."

Unfortunately, Baker and Raney's (2007) examination of children's animated superheroes backs up the existence of a racial bias. According to the study, Caucasians made up about 57.1% of superheroes, African American made up about 4.3%, Asians made up 2.9%, Hispanics and Latinos made up 1.4%. About 24% of the sample were either "Multiracial" or

⁷⁴ Red Wolf, Dani Moonstar, and Thunderbird, just to name a few. For those interested, the 1996 comic *Tribal Force*, which features an all Native American Team, is getting a reboot.

“Other,” and the rest were considered unidentifiable (some of these categories may encompass heroes who were aliens, animals, robotic, etc.).

These characters are also more likely to be portrayed as non-superhero supporting characters or as the sidekick, rather than the frontman. So, although there are more characters of color, they are still overshadowed by white superheroes. In fact, Dwayne McDuffie, who produced superhero cartoons (such as the *Justice League*) once mentioned that there was a “Rule of Three” in popular entertainment. This rule suggests that if more than three Black characters exist in the show, it should then be labeled as a “Black” product. Apparently, after *Justice League* incorporated a fourth black character, certain fans got very upset, saying it was “statistically impossible” to have so many black superheroes. McDuffie’s response? “The quota arguments on fictional teams crack me up. Is someone losing a job here? Which fictional character is losing a job?” (Rishon, 2016).

The Ugly

Writers and artists, especially in the golden and silver age of comics, have not always been kind in their representation of other cultures. This section alone could end up quite long if I were to go into detail on every single offensive thing put on the pages of a comic book. For the sake of brevity, I will only hit upon a couple striking points. Although many of these examples are from the past, they are extreme examples of aspects that are still present in today’s society, something that is indeed very ugly.

One of the biggest racist offenses in comic books is not anything that is said, but rather the illustrations of other races as grossly stereotyped caricatures. Although there are a handful of poorly depicted African-Americans (ex. Whitewash Jones, Steamboat), the Asian culture suffered greatly at the artists’ expense. Historically, this can actually be attributed to war

propaganda. This sounds surprising at first, but comic books have always had a special hand in politics, especially in the second World War. Covers have featured things like Captain America punching Hitler (Captain America #1, 1941), and Batman, Robin, and Superman selling war bonds to children (World's Finest Comics #8, 1942).

The attack on Pearl Harbor pitted the United States against the Empire of Japan and released a wave of propaganda against the Japanese people. Political cartoonists exaggerated stereotypical Asian features to make them look evil, animalistic, and far from the “American Ideal” (Miles, 2012). This type of depiction could increase in-group bias (Positive feelings towards one’s own group-- ex. Americans are good) and out-group homogeneity (belief that people outside one’s own group are all the same -- ex. all Japanese are bad; Ostrom & Sedikides). Comic books fed into these stereotypes, depicting the Japanese as idiotic, dangerous, alien-looking people. Not only were these people an enemy to the US, but suddenly they were the enemy of all of its Superheroes. Artistic racism reared its ugly head in sickly skin colors and exaggerated facial features. Additionally, our beloved superheroes were saying blatantly racist things:

Such as Captain America getting hit on the back of the head by a stereotypically drawn Japanese man, crying out “I’ll get you for that you yellow monkey!” Or in an advertisement, Superman cranked out a sign that read “Superman says: YOU can slap a Jap with war bonds and stamps,” accompanied by an image of a white hand slapping a Japanese man.

So, with a goal to increase support for the war, falling on racial differences proved to be effective—and lasting. Now that the people of the United States were viewing another race through a distorted lens, an era of hatred towards those people would begin. This type of mentality would peak with Japanese internment camps, a forced incarceration of all Americans

with Japanese ancestry that occurred in 1942 when President Roosevelt issued Executive Order 9066 (National Archives, 2017).

Even after the war was over, and people with Asian descent occasionally got to play the good guys, there was still some lingering bias in the way they were drawn. Perhaps the most laughable is Stan Lee's character, the fantastic Dr. Droom. Making his debut in the *Amazing Adventures* #1 (1961), Dr. Droom was more of a mystic than a superhero. Where it starts to get weird is in the story of how the Caucasian Doctor Anthony Droom gets his powers. He travels to the Himalayas to treat The Lama of a sickness. After completing a series of trials, like walking across a bed of coals and escaping from a "Gorlion" (gorilla-lion hybrid), he reaches The Lama, only to find that he is not actually sick but looking for a successor to fight against evil. Dr. Droom agreed to help and took the old man's hand. Suddenly, as he received his power, Dr. Droom turned into an Asian man! He touches his face in shock. "My Eyes!" He says, "They're becoming slanted! And I've a -- a moustache⁷⁵!"

These are all examples from the past, so one would hope that in the present, things would be better. Unfortunately, racism has only changed its form. Modern racism is the term to describe the phenomenon where outwardly racist beliefs are concealed to avoid the negative label of a racist (Bonilla-Silva, 2017). However, these beliefs still come out around like-minded individuals, when the person is under the influence, or subtly in some of the things that person says and does, called microaggression (Sue et al, 2007). So, while we aren't seeing as much blatant racism, it still quietly exists.

And well—sometimes not so quietly. One controversy came when Jessica Alba, a multiracial actress, was cast to play the Invisible Woman (*Fantastic Four*, 2005), who is

⁷⁵ The moustache in question was a Fu Manchu, which is a long straight mustache. It is commonly sported by stereotyped asian characters, in hollywood and comic books alike.

traditionally a blonde-haired, blue-eyed Caucasian. John Bryne, a prolific American comic artist and writer (who has worked on the Fantastic Four comics), took issue with the casting choice, stating “Hispanic and Latino women with blonde hair look like hookers to me, no matter how clean or ‘cute’ they are.” (Demby, 2014).

For something even more recent than 2005, one only has to look closer at the discussion that followed the announcement of Sam Wilson taking over the Captain America mantle. The original Captain America is the Caucasian Steve Rogers and has always been portrayed as a good-hearted war hero. Thus, he has become somewhat of an icon for Americans. In 2014, Steve Rogers battled The Iron Nail, and lost all of his enhanced abilities, aging to be over 90 years old. Knowing that he is no longer able to perform at the level of Captain America, Steve looks for a successor. Marvel makes the announcement about that successor being Sam Wilson, and it was quickly met with criticism. In the previous examples of racism, a lot of these controversial things were a direct result of the people behind the production of superhero media. However, the blog posts and forum comments that resulted show that a portion of superhero fans themselves may harbor some of these more racist ideologies. One commenter reacted saying “This is another way to indoctrinate our youth to believe everyone is equal. ... I think it is wrong for kids to think of black men as heroes as most of them do not even support their own kids nor hold a job.” So now there are two running Captain America comic books, *Captain America: Steve Rogers* and *Captain America: Sam Wilson* (Rishon, 2016). Written by the same man, the two Captains show that there still exists a divide the comic book fandom, all based upon the color of a fictional character’s skin.

Disability and Heroism

The Good

When starting a dialogue about diversity, disability does not come forward as often as it should. However, according to the World Health Organization's report on disability, about one billion people (15% of the world's population), live with some type of disability. There are certain groups that fit into a "disability prototype," such as those who are deaf, blind, or confined to a wheelchair. However, disability also applies to health conditions, intellectual ability, and psychological wellness. Just like the subject of race cannot be completely summarized in a short section, the topic of disability is very broad, and not all aspects of it will be covered.

So first, let's look at what comic books are doing right. You must dig a little, but there are superheroes who have certain disabilities, and still kick butt. In fact, some of these superheroes offer surprisingly powerful messages about disability. Barbara Gordon, the original Batgirl, was shot by the Joker, rendering her paralyzed (The Killing Joke, 1988). Although there were no original plans to continue her story, another writer chose to step in, turning her into a mysterious, wheelchair bound woman named Oracle. In the story that revealed Oracle to be Barbara Gordon, Barbara says "I was tired of being a victim. I had skills and abilities long before I became Batgirl. It's time for me to make them work for me again. "She is visited in her dreams by a woman who says "You've lost nothing that matters. You have everything you need." Inspired, Barbara decides to return to crime fighting, trading in the title of Batgirl and her gymnastics abilities in favor of Oracle's expertise computer and hacking skills (Batman Chronicles Vol 1 #5, 1996). The message is incredible; when it comes to being a superhero, a

pair of working legs isn't as important as a good heart and determination. In addition to Oracle, Professor X is also a prominent, wheelchair-bound superhero, who through certain gifts, remains to be a strong leader and admirable superhero.

There is also a touching story behind Marvel's representation of deafness. One mother once messaged Marvel because her young son was born with mosaic trisomy 22⁷⁶, and didn't want to wear his hearing aid because "superheroes don't wear hearing aids." Marvel responded to the little boy's complaint by creating Blue Ear, a superhero named after the boy's hearing aid (Castillo,2012). Creative Director Bill Rosemann stated, "We're hoping to spread the word that cochlear implants and hearing aids are nothing to be afraid of or make fun of. In fact, they're similar to Iron Man's armor: incredible technology that helps people". The Blue Ear would join the likes of Hawkeye⁷⁷ and Echo as deaf superheroes (Stevens, 2014). There are also superheroes who are blind, such as Daredevil, who has recently gained popularity due to his Netflix original TV series. Additionally, Dr. Mid-Nite, who was introduced in the Golden Age, is another blind superhero. His blindness was a result of becoming a victim of a hand grenade explosion, and he gained the ability to see in complete darkness, a superpower which would raise him to the ranks of the Flash and the Green Lantern.

The Bad

Although certain disabilities are included in the superhero lineup, there is still not a lot of representation. The non-inclusion of disabilities sends a subtle message that being a superhero requires you to be completely physically and mentally perfect.

⁷⁶ A genetic disorder where a person has three copies of chromosome 22, instead of the two that most people have. In this case, the little boy was left with hearing problems.

⁷⁷ Hawkeye is not always portrayed as deaf, anyone who has seen the Marvel Avengers movies know that. However, many comic book story arcs have portrayed him as deaf as a result of an incident of some type.

There is also a trend of writing off disabled characters. So, this means that in some story arcs, certain characters are involved in an accident and physically disabled by it, but then the writers eventually find a way to miraculously heal this character and return them to their former state. As I mentioned earlier, when Batgirl was shot and became Oracle, she demonstrated that wheelchairs don't prevent someone from being a hero. However, DC comics rebooted everything in 2011 (New 52), and suddenly, Barbara got a mysterious surgery down in South Africa that gave her the ability to walk. Oracle was abandoned, and Barbara Gordon became Batgirl once again. There have been many Batgirls, but only one Oracle, so it is unfortunate that one of DC Comic's only paraplegic characters was written off.

Additionally, in the Iron Man comics, Tony Stark was shot by an ex-lover and suffered major spinal damage. The doctors manage to save his life and remove the bullet, but at the end of the issue a doctor announces at a press conference that "Tony Stark will never *walk* again!" Afterwards, Tony struggles with the frustration and sense of loss that comes with becoming a paraplegic. It adds a lot of depth and insight to his character, and hits on some of the struggles of being confined to a wheelchair. Eventually, Stark changes his super suit to move his legs for him, and resumes the mantra of Iron Man. After his first outing as Iron Man, he reflects, "I've only solved *one* problem, there's still a whole world I'm going to have to face *without* my armor... and I've a feeling that could be tougher than anything I've ever had to face *with* it...!" A couple episodes later, it is discovered that a company called Cordco International has developed a biochip with the ability to reconstruct nerve tissue. Tony purchases the entire company, gets the chip implanted, and is walking by the next issue (Iron Man #242-248).

The problem with using "miracle cures" to make characters able-bodied again lies in the fact that for most people with a disability, there is no secret South African surgeon or biochip

company. In the real world, disability isn't just a plot device, it's a part of daily life. So as a result, the story does a great disservice to the very population it is trying to represent. It not only gives people (or impressionable kids) false hope, but it also sends the message that disability is expendable, or miraculously curable, and superheroes are better off without it.

The Ugly

The lack of representation at least means that there are less examples of a disabled character rendered badly. However, there are still a few examples that can be called to attention. One of these is with a character named Eugene Judd, more famously known as Puck. Puck was a member of the Alpha Flight team and was courageous, straightforward, and kind. He was unique in that he was originally crafted as someone who suffered from achondroplasia (a type of dwarfism related to cartilage and bone formation). In fact, when a guy fighting Puck calls him a 'midget,' Puck responds with a brilliant "First off, we're called 'little people' these days. And second, I'm not a midget, I'm a dwarf. The condition is called achondroplasty. It involves lack of growth in all the long bones, eh? Ah, but you probably knew that." Achondroplasia is the most common cause of dwarfism⁷⁸, but can be connected to a lot of health issues, such as apnea, hydrocephalus⁷⁹, back problems, and sometimes a lot of pain ("Achondroplasia," 2017). Despite this, Puck was a skilled fighter and acrobatic, and became very popular among others who shared his condition.

However, once writer/artist John Byrne was succeeded by Bill Mantlo, Puck's backstory changed drastically. Instead of having achondroplasty, Puck's story begins as a rather tall adventurer who does not have dwarfism. He encounters a mystic blade on one of his journeys and accidentally releases a demon named Raazer. Eugene fights off the demon and uses the light

⁷⁸ Achondroplasia occurs for one in 26,000-40,000 births, and accounts for about 70% of all cases of dwarfism.

⁷⁹ Excess fluid in the brain.

of his own soul to imprison the demon inside of him. As a consequence, Eugene Judd shrinks to just under four feet tall. Bryne was understandably unhappy with the change, and even said “the whole ‘demon inside’ thing [was] based, apparently, on the single reference Puck had made to being in constant pain, something which Bill failed to grasp was an effect of the condition -- achondroplasty, called by name in the same issue that referenced the pain.” So, instead of having a lovable character with a natural genetic condition, Puck then became a man who is given dwarfism due to *demon possession*. This not only strips the character of his relatability, but also unfairly draws a connection between dwarfism and demonic curses. This does not send a good message to those who live with the condition. Puck was eventually killed off in New Avengers #16 (2006) and has not returned since.

Conclusion

Superheroes both reflect our culture and influence it. Because of this, they represent the best and the worst parts of the journey to equality. There are many positive strides made towards representing minority groups fairly, but there is still progress to be made. Superheroes may be one small part of culture, but they can have a profound influence on people’s lives. Many people find joy and inspiration in the stories of their favorite heroes. So why not make an effort to spread that joy to as many others as possible by being inclusive in the superhero world?

In the words of Wonder Woman, "If the prospect of living in a world where trying to respect the basic rights of those around you and valuing each other simply because we exist are such daunting, impossible tasks that only a superhero born of royalty can address them, then what sort of world are we left with? And what sort of world do you want to live in?" (Wonder Woman #170).

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