

# **Journal Introduction**

### **Editorial Mission**

Paw Prints: The Michigan Tech University Journal of First-Year Writing is a student-run academic journal that provides an opportunity for first-year composition students to submit their academic writing. The goal of Paw Prints is to publish and support student writers. Paw Prints focuses on creating a community where students can submit their work, collaborate with peers, and explore new ideas through scholarly writing. Submissions to the journal will go through an anonymized peer review process.

### **Editorial Board Members**

**Emily Augustyn** 

(Scientific and Technical Communication)

**Andrew Brodowski** 

(Mechatronics)

Robert Brownell

(Electrical Engineering)

**Matthew Buckridge** 

(Computer Science)

**Clare Buday** 

(Scientific and Technical Communications)

Vanessa Dulong

(Sound Design)

Andrew Eschenauer

(Cybersecurity)

**Emma Hampton** 

(Ecology and Evolutionary Biology)

Rowan Kerns

(Scientific and Technical

Communication)

**Alli McDermitt** 

(Computer Science)

Jamie Perlman

(Scientific and Technical Communication)

**Brendan Philo** 

(Scientific and Technical Communication)

Ellie Rizk

(Sustainability Science and Society)

Jackson Sanderson

(Mechanical Engineering Technology)

**Luke Tennes** 

(Construction Management)

**Race Woloshen** 

(Mechanical Engineering Technology)

## **Sponsoring Institution**

*Paw Prints* is published under the auspices of Michigan Technological University's Department of Humanities Composition Program.

#### Communications

Paw Prints editorial staff can be reached at pawprints@mtu.edu.

Cover Design by Ellie Rizk & Editing students. Printing by Michigan Tech Print Services.

## **Editors' Introduction**

The Michigan Tech University Journal of First Year Writing, also known as *Paw Prints*, is a student-run academic journal that features first-year composition students' work. The journal is currently run by the students enrolled in the course HU3606: Editing. The journal serves as both a publication opportunity and a learning experience in the editing and publishing process. *Paw Prints* was founded with the initiative of producing a platform to highlight and recognize student writing. The goal was to recognize quality writing that was produced from the first-year writing course, UN 1015: Composition. The journal highlights research writing from diverse genres that demonstrates the creativity and engagement of the first-year student's work.

Paw Prints aims to build a stronger and more visible writing culture on campus by encouraging students to take pride in their work, see themselves as active voices in academic conversations, and connect with a wider community through peer review and collaboration.

The creation of a new journal is rewarding work, but also lengthy and complex. To simplify it, we broke it up into four phases where we each took on different roles.

- In Phase One, we split up into teams and searched other, similar journals for their mission statements, the publication software they use, and what kind of articles they published.
- We took all of that into Phase Two, where we wrote our own statements and documentation: Our vision and scope, our guidelines for submission and review, our ideas for covers and style.
- We received our wonderful submissions and started on Phase Three. We made multiple reviews of each article for our editorial team to consider when deciding what articles would make the cut.
- Finally, Phase Four was packaging it all up and getting it to the presses: teams of editors, copyeditors, typesetters and proofreaders polishing for weeks.

Our first issue covers a wide range of topics that we believe fellow students will find interesting, timely, and thoughtful. We are proud that our journal reflects the variety of majors and interests to be explored on campus:

The first article, *Nature & the Mental Health of College Students*, was written by Caleb Huibregtse, a Robotics Engineering student from Wisconsin. Inspired by his love of the outdoors, he explored the positive psychological impacts of spending time in nature. The second article, *Women in Wonderland: Japanese Feminism in the Context of Lolita Fashion*, was written by Precious Mubanga, a Chemical Engineering student from Zambia by way of Illinois. She wished to explore the ways in which people carve out a space for self-expression.

The third article, *Beyond Bullets: The Role & Effectiveness of Media in the Russia-Ukraine War*, was written by Cal Gilbertson, a Computer Network and System Administration student from Wisconsin. He explored the war in Ukraine by means of understanding both countries' social media campaigns. The fourth article, *The Representation of Autism Spectrum Disorder in Fictional Media*, also focuses on representation and texts. Written by Emma Schmidt, a Mechanical and Aerospace Engineering student from Michigan, the article synthesizes current research on how characters with Autism Spectrum Disorder are represented in TV and film.

The fifth article, Space Exploration and its Advancing Future, was written by Noah Taylor, a Computer Science student from Michigan. Looking to share his childhood love for astronomy, he explored the present reality and potential futures of space exploration. The final article, School Segregation's Impact on Success, was written by Bella Vasoli, a Human Biology pre-

med student from Minnesota. Wishing to better understand our country's past and how it informs our present, she explored the impacts of segregation in education.

One of our most important goals in publishing this first edition has been to ensure that this process is repeatable in later semesters — "first edition" becomes much more impressive once it's not simultaneously the last edition. We're ecstatic to have made it all the way from concept to publication in just a semester, especially knowing how conditional this success has been: we truly couldn't have done it without the tireless, after-hours work of everyone on the editorial board. Now that we've laid this groundwork, we look forward to the next board of student editors continuing the journal.

We're also incredibly proud of the articles we've selected to include. We initially feared that we might not receive enough submissions, or that we wouldn't be able to represent a breadth of content as wide as we know our student body is capable of, but the moment we began reviewing our submissions, these fears disappeared; in reality, our biggest hurdle in the selection process was in picking which articles not to publish, given our limited budget and timeframe. We're overjoyed to be able to bring some of the incredible writing of our first-year students to the attention of the reading community.

#### **Editorial Leadership Team**

Emily Augustyn Rowan Kerns Alli McDermitt Jamie Perlman Brendan Philo

## **Submission Guidelines**

The guidelines that applicants were provided with when submitting their manuscripts are included here in full.

To prepare your article for submission, review the following guidelines. *Paw Prints: The Michigan Tech University Journal of First-Year Writing* is aimed at members of the campus community (including students, faculty, and staff) as well as readers from the Copper Country.

- Author must be a first-year undergraduate student. In particular, articles prepared for first-year writing courses are prioritized, but all first-year writers are invited to submit.
- The manuscript should be about any academic topic that you are interested in and/or passionate about. We accept articles up to the length of 3000 words (or about 10 pages).
- Aim to include multiple peer-reviewed sources in your reference list. Please contact the review board at pawprints@mtu.edu if your subject is less researched and are struggling to find enough sources of existing literature.
- Your manuscript should be well-written, readable, and understandable for a broad audience with no prior knowledge of your topic.
- Provide a short, written blurb (maximum 200 words) along with your research article that
  includes an author's note with an explanation of why you wrote the article, your department,
  and your contact information (MTU email and name). You can put this in the "abstract" box
  which will not appear to reviewers of your article.
- The use of generative AI is prohibited in your writing. If you use AI for research, you must cite any information, images, text, and sounds according to APA guidelines for AI citations.

#### Additional details:

- The manuscript should be in a Microsoft Word Document-compatible format. Do not submit PDF documents.
- Do not include your name on the submitted document in order to receive an unbiased review.
- Format your paper in 12-point Times New Roman font.
- The recommended length of your manuscript is eight to ten pages, including figures and tables if applicable.
- Your manuscript can be submitted in any documentation style but a final accepted version should follow APA student paper guidelines.
- You can provide a writer's statement with your abstract, or upload it separately.

# **Table of Contents**

Editorial Mission · · · · · · · · · · · · · · · · · · ·
Editorial Board Members · · · · · · · · · · · · · · · · · · ·
Editors' Introduction · · · · · · · · · · · · · · · · · · ·
Submission Guidelines · · · · · · · · · · · · · · · · · · ·
Table of Contents · · · · · · · · · · · · · · · · · · ·
Caleb Huibregtse, Nature and the Mental Health of College Students · · · · · · · · - 6 -
Precious Mubanga, <i>Women in Wonderland: Japanese Feminism in the Context of Lolita</i> Fashion · · · · · · · · · · · · · · · · · · ·
Cal Gilbertson, <i>Beyond Bullets: The Role and Effectiveness of Media in the Russia-Ukraine</i> Conflict · · · · · · · · · · · · · · · · · · ·
Emma Schmidt, The Representation of Autism Spectrum Disorder in Fictional Media $\cdots$ — 23 —
Noah Taylor, Space Exploration and its Advancing Future · · · · · · · · · · · · - 28 -
Bella Vasoli, School Segregation Impact on Student Success · · · · · · · · · · · · · · · · · ·
Editors' Biographies · · · · · · · · · · · · · · · · · · ·
Authors' Biographies · · · · · · · · · · · · · · · · · · ·

# **Nature and the Mental Health of College Students**

## Caleb Huibregtse

#### **Writer's Statement**

I was drawn to Michigan Tech in part because of the natural scenery of the area. I enjoy many outdoor activities such as skiing and mountain biking. While I was interested in an engineering career, I wanted to go to college somewhere where I could find a balance between my academic interests and my personal hobbies. As a result, this topic came to mind when I had to do research papers for composition. I was worried that I would find little, and consequently was unsure what questions to ask. My initial drafts ended up being very disconnected and scatterbrained, and the revision process during and after the class was difficult for me and took more time than I intended. However, in the end, I feel relatively proud of how my final journal article turned out, and am pleased to share with you my findings on nature and its effects on the mental health of college students.

College is an important transitional period of life for many people. Independence allows students to discover themselves, make new friends with similar interests, and learn to be adults in addition to learning the curriculum of their classes. However, students also have a greater number of responsibilities, and spend a long time away from their families and the friends they made in high school. This increases the prevalence of mental health disorders like anxiety and depression in colleges. In the 2022 American College Health Assessment, it was discovered that 34.6% of students have been diagnosed with anxiety disorder. (American College Health Association, 2022). An estimated 41% of students also suffer from depression according to the 2022-2023 Healthy Minds Study (Murphy & Bell, 2022).

While counseling can be an effective method for dealing with mental health, many students still do not get the help they need due to the inequity in the number of students struggling with mental health compared to those working in mental health services. Many students also avoid these services due to the stigma around getting mental health support. Additionally, students' everyday activities and environment also have a great impact on their mental health. Growing research suggests that nature can be a strong antidote for mental health issues, with effects ranging from relieving everyday stressors to helping soothe long term depression and anxiety. Nature should be used to combat the mental health crisis in colleges both because of its ability to reduce stress and improve mood, and due to the numerous proven methods to help connect students to nature and its mental health benefits.

#### Stress Reduction Due to Time in Nature

Spending time in nature has been proven to improve mental health through multiple aspects, one of which is decreasing overall stress. Natural environments are beneficial to stress reduction because of attention restoration. Modern life can often demand a high degree of voluntary attention that can produce an unhealthy degree of stress, and college students are no exception. For example, a student usually focuses for three or more hours of lectures and often has to do homework to reinforce the material afterwards. Taking breaks for exercise or reading are recommended to de-stress because they engage the mind with a different task and promote other parts of your well-being simultaneously. However, if these activities are done in nature, an additional benefit is provided. Nature enables indirect attention to allow your direct attention to recharge (Ohly et al., 2016). Essentially, nature provides distractions that draw your attention rather than requiring you to pay attention through aesthetic appeal and movements such as leaves rustling in the wind or animals, preventing stressful thoughts from recurring.

Multiple studies that have analyzed the effectiveness of time in nature found evidence to support these effects. A group of Cornell researchers found that students demonstrated more evidence of decreased stress in natural environments compared to urban environments. This included physiological evidence such as lower heart rates, cortisol levels, and blood pressures, as well as psychological evidence such as self-reported feelings of comfort. (Meredith et al., 2020). The study proves that nature's stress relief can be used as an effective way to boost mental health, alongside exercise and other strategies. The researchers also found that spending 10–20 minutes in nature is enough to provide these effects to a significant degree for the majority of college students and continues to increase with the amount of time spent in nature up to 50 minutes (Meredith et al., 2020). This affirms that the impacts of nature on stress reduction are significant, and that budgeting time in nature into any college student's schedule is feasible.

#### **Nature's Effect on Emotional Health**

Decreased stress is not the only mental health benefit of spending time in natural environments; they have also been proven to greatly improve emotional health. Multiple factors are believed to contribute to these benefits. Nature provides free, open spaces, which encourages exercise (Jimenez, 2021). Exercise in turn improves blood circulation in the brain and therefore improves mood. The biophilia hypothesis is another possible source of these benefits. According to this theory, all humans have an innate psychological connection to nature due to surviving in natural environments for millions of years, and as a result, our self-preservation instincts remain. Various stimuli, such as the chemicals released by leaves, views of natural scenery, noises of animals, and the sound of running water, cause releases in serotonin to the brain. This is the hormone responsible for improving mood as a reward system for the brain. Contrarily, urban scenery and noises cause stress responses in the amygdala, the part of our brain responsible for our fight or flight responses. (Mantler & Logan, 2015). While these mechanisms are not completely understood yet, multiple case studies support that nature provides significant emotional health benefits.

An article published on Frontiers of Psychology discussed a study on college students, and states that: "nature experiences of between 10 and 20 minutes have been shown to improve mood an average of 86% among student participants." (Ibes & Rakow, 2022). This proves that nature does not only relieve stressors; its scope of mental health effects extends to emotional health to a significant degree.

Spending time in nature has additionally been proven to aid in relieving more severe emotional health disorders such as depression, even to the extent of reversing long-term symptoms of depressive disorder such as cognition. For example, a study done by researchers from Stanford, the University of Michigan, and the Rotman Research Institute focused on comparing the effect of nature on mental health of volunteers with major depressive disorder by having each walk for 50 minutes through either city streets and through a park near campus and switching the following week. Before and after the walk, participants were surveyed for mood (measured as 'positive affect' and 'negative affect'), which is the main indicator of the disorder. They were also tested for their working memory (also called short term memory) through a backwards digit test, as difficulty with memory is a common symptom of major depressive disorder. On average, the participants had both a much better memory and a better mood after walking in nature than in an urban center or not at all (Berman et al., 2012). Evidently, spending time in nature significantly boosts mental health through multiple aspects, which means that getting students struggling with a wide range or multiple mental health issues could benefit greatly from setting aside time to spend outdoors.

#### **Greenspace on College Campuses**

Though promoting student involvement in outdoor activities helps to improve student mental health, students still must spend a large portion of their time on campus. This does not. however, mean that they cannot receive some mental health benefits of nature. Small doses of 'greenspace', or aspects of natural environments in non-natural areas such as parks in cities or even trees in someone's backyard can provide most of the mental health benefits that 'true nature', such as forests, provide (Callaghan et al., 2020). Many universities could benefit from using their campus greenspace more effectively. An article by Ibes and Rakow introduces a program called Campus Rx that is being used at over 50 universities nationwide. The article explains several methods already being used to promote nature on college campuses. Some universities have undergone large projects under this program, including California State University Monterey Bay, which got students involved in planning future campus development through a Research Methods class (Ibes & Rakow, 2022). However, these types of more extreme changes are often not cost-effective or applicable to most schools. Others such as William & Mary and Cornell University have gotten students involved in small changes in infrastructure such as building outdoor furniture in less utilized areas or creating both indoor and outdoor gardens. Some schools have also explored passive methods such as including outdoor eating or studying spaces on campus maps to encourage students to use underutilized green spaces on campus. (Ibes & Rakow, 2022). Not every school is capable of transforming its greenspaces to the same degree. However, there are various cost-effective approaches that can be easily organized by students and faculty to promote mental health on their campus and possibilities for long term changes in infrastructure that prioritize mental health.

Many schools and programs promoting greenspace on campuses are still in their early phase, so little data is available on the impacts of these programs. However, a case study between 45 different Chinese Universities already suggests that colleges with better greenspace have greater mental health benefits. In the study, the schools were compared through student ratings on four aspects of their campus' green space: comfort, reasonable layout, beautiful scenery, and diverse plants, then ranked by students on a scale of one (poor) to five (excellent). Their mental health was assessed through a similar survey rating five indicators of their emotional health from one (poor) to six (excellent), in addition to their GPA to see if either the green spaces had improved their grades or if the grades had an effect on their mental health. While the participants were in varying mental health states, it was found that there was a three- way positive correlation between better greenspaces, academic success, and mental health, and that "green spaces had an important effect on college students' mental health, and the degree of this effect had exceeded that of academic achievement" (Liu et al., 2022). This study not only affirms that improving greenspaces on college campuses would have a significant effect on mental health, it also proves that available greenspaces can foster academic success, relieving many of the stressors that cause anxiety in colleges at the source. A study done on the effect of greenspace on mental health at Furman University proved that the students who take advantage of campus greenspace reported several positive mental health indicators. Of the students who utilized green space for over 15 minutes, 35.3% claimed that they felt a higher quality of life,

39.4% perceived low stress, and 22.6% felt "very happy". Of those who did not, only 24.0% felt a higher quality of life, 29.9% perceived lower stress, and 11.5% felt "very happy." (Holt et al., 2019). The study found a consistent increase in different measures of positive mental health, suggesting that green spaces have a positive impact on student's mental health. Considering that the two studies were done in culturally different countries, these studies also show that improving green spaces has an overall positive impact for the majority of people regardless of their background.

#### Conclusion

Nature, and more specifically green spaces, are capable of significantly reducing stress and improving mood and cognition. The framework to promote and improve college green spaces has already been laid out and proven effective by many schools across different parts of the world. Consequently, college staff and student leadership have ample resources to make nature part of the solution for the college mental health crisis and should extend more efforts to do so. After all, by promoting student mental health we are not only helping individuals but setting ourselves up for a brighter future.

#### References

- American College Health Association. (2024). American College Health Association-National College Health Assessment III: Reference group executive summary Spring 2024. Silver Spring, MD: Author.
- Berman, M. G., Kross, E., Krpan, K. M., Askren, M. K., Burson, A., Deldin, P. J., ... & Jonides, J. (2012). Interacting with nature improves cognition and affect for individuals with depression. Journal of Affective Disorders, 140(3), 300-305.
- Cothran, E., & Dr. Li's Tales of East Asian Cities Class, Fall 2022. (2022). CHIN/WCL 3342: Tales of East Asian Cities (pp. 85–86). University of Houston Libraries. https://uhlibraries.pressbooks.pub/chin3342fa22/
- Gu, J., Liu, H., & Lu, H. (2022). Can even a small amount of greenery be helpful in reducing stress? A systematic review. International Journal of Environmental Research and Public Health, 19(16), 9778.
- Holt, E. W., Lombard, Q. K., Best, N., Smiley-Smith, S., & Quinn, J. E. (2019). Active and passive use of green space, health, and well-being amongst university students. International Journal of Environmental Research and Public Health, 16(3), 424.
- Jimenez, M. (2021). Associations between Nature Exposure and Health: a Review of the Evidence. International Journal of Environmental Research and Public Health, 18(9). https://doi.org/10.3390/ijerph18094790
- Liu, W., Sun, N., Guo, J., & Zheng, Z. (2022). Campus green spaces, academic achievement, and mental health of college students. International Journal of Environmental Research and Public Health, 19(14), 8618.
- Mantler, A., & Logan, A. C. (2015). Natural environments and mental health. Advances in Integrative Medicine, 2(1), 5-12.
- Meredith, G. R., Rakow, D. A., Eldermire, E. R., Madsen, C. G., Shelley, S. P., & Sachs, N. A. (2020). Minimum time dose in nature to positively impact the mental health of college- aged students, and how to measure it: A scoping review. Frontiers in Psychology, 10, 2942.
- Murphy, M., & Bell, J et al. (2023). 2022-2023 Data Report. https://healthymindsnetwork.org/wp-content/uploads/2023/08/HMS\_National-Report-2022-2023\_full.pdf
- National Alliance on Mental Health. (2020). Mental health benefits of nature. https://namica.org/blog/mental-health-benefits-of-nature/

- Ohly, H., White, M. P., Wheeler, B. W., Bethel, A., Ukoumunne, O. C., Nikolaou, V., & Garside, R. (2016). Attention Restoration Theory: A systematic review of the attention restoration potential of exposure to natural environments. Journal of Toxicology and Environmental Health, Part B, 19(7), 305–343. https://doi.org/10.1080/10937404.2016.1196155
- Rakow, D. A., & Ibes, D. C. (2022). Campus Nature Rx: How investing in nature interventions benefits college students. Frontiers in Psychology, 13, 960370.
- Trevino, J. E., Monsur, M., Lindquist, C. S., & Simpson, C. R. (2022). Student and nature interactions and their impact on mental health during the COVID-19 pandemic. International Journal of Environmental Research and Public Health, 19(9), 5030.

# Women in Wonderland: Japanese Feminism in the Context of Lolita Fashion

\_\_\_\_\_

## **Precious Mubanga**



Figure 1: Simoneau, M. (2008, March 30). IMG\_9381 A group of Sweet Lolitas walk together. [Photograph]. Flickr. https://www.flickr.com/photos/matthewsim/2435272370

#### Writer's Statement

Coming from a fairly conservative country, I have always had a deep appreciation for subcultures that challenge societal norms. I wanted to know why people would go against the grain in a society that values harmony and uniformity. While reading about alternative fashion communities, I stumbled upon Lolita fashion. I was captivated by its intricate designs, spectacular visual presentation and complete disregard for practicality. It is hyper-feminine, but it does not adhere to male-gaze driven beauty standards. I found this paradox intriguing. There was a message behind the bows and frills, and I wanted to illustrate this in my paper.

My motivation for writing this paper is to challenge misconceptions surrounding Lolita fashion. It is often dismissed as frivolous or infantilizing, but I believe it is far more radical. Fashion is more than just clothing; it is a means of self-expression. I feel that women who dress this way have embraced Lolita as a means of reclaiming agency over one's self-presentation. They have found a creative way to state their autonomy and rebel against tradition, and they deserve to be acknowledged.

My goal for my readers is to offer a fresh perspective on fashion and feminism, and challenge preconceived notions of what empowerment should look like. I want them to realize that feminism is not about rejecting traditional femininity, it is about engaging with it on your own

terms. I hope that this paper sheds light on how Lolitas have created an identity independent of societal pressure, proving that femininity can be powerful instead of passive.

#### Abstract

Women's fashion in Japan has evolved through numerous trends and seasons. From the multilayered silk robes of the Heian period to the petticoats and blouses of Lolita fashion today, it is clear Japanese women's fashion has developed alongside feminist movements and reflects the change in societal values over time. In this paper, I will illustrate the feminist elements in Lolita fashion and how eccentric fashion subcultures like Lolita are a form of quiet rebellion against gender expectations and capitalist systems in Japan. The key questions I address are:

- · What are the origins of this subculture?
- How has Lolita fashion evolved to reflect current feminist beliefs in Japan?
- How has the West influenced Lolita fashion?
- · What role do men play in Lolita fashion?

Key words: Lolita, Lolita fashion, feminism, Japanese fashion

#### **Lolita Defined: What is Lolita Fashion?**

Lolita fashion is a Japanese alternative fashion subculture that takes inspiration from Victorian era children's clothing. Key elements of a Lolita "coord" (coordinated outfit) include bonnets, blouses, petticoats and Mary Janes. In the Lolita subculture, "kawaii" (the Japanese word for "cute") is the name of the game. The goal is to resemble a life size doll from an era that is not modern Japan. For example, the elaborate hairstyles of the Rococo era (18th century) have inspired many Lolitas to incorporate wigs and floral headpieces into their coords and the delicate fabrics of the Romantic period (19th century) inspired the dreamy looks that Sweet Lolitas are known for. Women in the subculture, usually in their late teens to early twenties, will spend thousands of ven on elaborate outfits to achieve a child-like appearance. Many members of the fashion subculture will complement their aesthetic choices with demure mannerisms such as speaking in a gentle voice or walking in small, measured steps. "The dedicated Sweet Lolita does not just wear the clothes of a child, but she will speak in a nasal, high-pitched voice, adopt a pigeon-toed childish posture, and carry around children's toys." (Younker, 2011, p. 101). These mannerisms are rooted in a desire to embody both innocence and elegance, which aligns with Lolita's influences from the European aristocracy. There are many subgenres of Lolita fashion that fall in and out of popularity as the years go by. The distinct characteristics of each subgenre allow for a wide range of self-expression. Sweet Lolita, the most widely recognized subgenre, features pastel colors and playful, sugary motifs. Gothic Lolita makes use of corsets, dark colors, and religious symbols. Cyber Lolita features laser cut acrylic, bleached hair, and space themed accessories. These subgenres allow the wearer to experiment with different expressions of femininity while maintaining the core principles of Lolita: modesty, grace, and youthful beauty.



Figure 2: My Lolita Dress. (2024). A young woman models a Gothic Lolita dress [Digital image]. LeMiroir Moonlit Prayer Gothic Lolita Dress. Retrieved November 13, 2024, from https://www.my-lolita-dress.com/

#### Rococo Reborn: The Origins of Lolita Fashion

While the exact origins of Lolita fashion are unknown, most sources state that Lolita fashion began in the late 1970's. During this time Japan was experiencing rapid economic growth, a sharp increase in technological innovation, and many cultural shifts pertaining to consumerism and youth identity. Young Japanese who were desperate to escape the rigid societal expectations of post-war Japan embraced consumer-driven trends, but they were also nostalgic for trends that were associated with elegance and aristocracy. This nostalgia stemmed from a desire to balance tradition with a rapidly changing society. As Japanese women became increasingly exposed to Western media, their interest in historical European fashion grew. Rococo fashion appealed to them because it allowed them to break free from convention and assert their identities while still maintaining an air of grace and refinement. Rococo fashion is a decorative style of clothing that emerged in 18th century France. It is known for its playfulness and extravagance and features bell-shaped silhouettes, pastel colors and decorative elements like lace and ribbons. A popular example of Rococo fashion can be seen in The Swing by Jean-Honore Fragonard. The painting captures the era's ornate clothing and playful elegance.



Figure 3: Fragonard, J. (1767–1768). The swing [Online image]. Wikimedia Commons. Retrieved November 22, 2024, from https://commons.wikimedia.org/wiki/File:Fragonard,\_The\_Swing.jpg

As the economy began to stagnate in the 1990's, Japanese youth shifted their focus towards more introspective trends. Contemporary art and media saw a massive boom in Shojo (girl) culture, which centers around the aesthetics and interests of young girls. Shojo media features idealized depictions of femininity set in fantasy worlds where innocence, playfulness and self-discovery are central themes. Through Lolita, young Japanese women were able to take elements of Rococo fashion and turn them into an expression of youthful innocence grounded in Shojo. It should also be noted that although Lolita fashion is inspired by Victorian and Rococo clothing, it is not at all historically accurate. Instead, Lolita appropriates an era of European fashion that did not actually exist. It comes as no surprise, then, that Lolita fashion is also heavily influenced by illustrations of young girls in fiction such as Alice in Wonderland (Caroll, 1865). Alice, like many girls in Shojo media, is depicted as innocent, delicate, and beautiful. These traits mirror the Lolita aesthetic and make Alice in Wonderland a natural fit for Lolita designers looking for inspiration. The earliest and most direct nod to Alice in Wonderland in Lolita is the launch of Alice and the Pirates in 2004. Alice and the Pirates is a sub-label of the Lolita apparel brand Baby, the Stars Shine Bright. This sub-label is dedicated to combining gothic and punk styles with whimsical themes from Alice's adventures. Many other brands have since released collections with similar motifs.

#### Girls Just Want to Have Fun: Lolita and the Feminist Debate

In the 1990's, feminism in Japan gained momentum. The most significant issue in the feminist debate was whether labor was essential for the liberation of Japanese women. Activists were against Japan's capitalist value-system and argued that women should be liberated through work-life balance. Many working-aged women in Japan shared this sentiment. The long working hours and strict hierarchies left little room for personal expression. In response, a large number of women turned to Lolita fashion to reclaim a sense of innocence and joy.

Due to the restrictive nature of the dresses worn and the childlike personas adopted by many Lolitas, it is often thought that Lolita fashion's influences are rooted in symbols of female oppression. However, in the context of Japanese society Lolita fashion can be subversive. The ideal traditional Japanese woman is modest, silent, and uncomplaining. Outside of her role as a daughter, wife or mother, she ceases to exist. Instead of countering these expectations directly, Lolita allows women to withdraw from them entirely. "This is women's armor against a society they feel they do not belong to, expressed in frills and high socks. The princesses of Lolita maintain their maidenhood at any age and indulge themselves in what brings them joy, cute and beautiful things." (Cothran, 2022).

Many people believe that Lolita fashion reinforces traditional gender roles by infantilizing women. "For instance, the trend for mature-aged women to dress like prepubescent girls is perceived by some as operating exclusively for an unhealthy, objectifying male gaze." (Monden, 2013, p. 171). However, Lolita's strong emphasis on youthful femininity challenges our understanding of what it means to be a woman in modern Japan. Its focus on modesty and playfulness is a celebration of women. It celebrates an idealized version of womanhood that is independent of male attention. Lolita fashion reclaims hyper-femininity and weaponizes it to assert autonomy, not to please or seduce. Choosing to dress for oneself in a society that often ties a woman's worth to her utility is a radical act. Lolitas challenge the notion that power must be masculine to be legitimate. Loud, in-your-face fashion subcultures like Lolita increase the visibility of the wearer and allow them to define their own personal identity. Women in this subculture are rejecting the sexualization and subsequent erasure of women as they age through their stylistic choices. They are also prioritizing personal joy as an act of resistance. By choosing to express themselves through elaborate craftsmanship, they relieve themselves of the pressure to conform to mainstream standards of beauty.

#### Not Nabokov's Girls: A Western Lens of Lolita Fashion

In the Western world, Lolita is perceived as exotic and unfamiliar. Its foreignness prompts Westerners to romanticize it as odd and eccentric. The style's emphasis on modesty and elegance is often misinterpreted as childish or overly restrictive. In addition to this, there is a misconnection between the fashion and the Euro-American definition of "Lolita". According to the Merriam-Webster dictionary, a Lolita is a precociously seductive young girl. The term is derived from Vladimir Nabokov's novel *Lolita*, which follows a man named Humbert and his attraction to little girls whom he refers to as "nymphets". He falls in love with his neighbor's twelve-year-old daughter Dolores (nicknamed Lolita) and kidnaps her. "For Japanese Lolitas, the fashion's name has no connection to the 1955 Vladimir Nabokov novel. In fact, many are unaware of the book and film adaptations. Instead, the fashion is connected in their minds to ideas of girls and girlhood" (Nguyen, 2016, p. 16).

Unfortunately, the association between Lolita fashion and the inappropriate connotations of the novel has led to some confusion and controversy. For example, American singer/songwriter Melanie Martinez is well-known in the Lolita community for incorporating childish themes into her music while wearing Lolita. However, after an interview with InStyle in 2015, many members of the Lolita community were outraged. When asked about her clothes, she said "It all relates to childhood. On this tour, I've been wearing adult baby dresses - they're for people who are actually into that weird fetish." Martinez's interpretation of Lolita aesthetics lacks an understanding of the cultural significance and social dynamics of the fashion.

Despite these challenges, there are several growing Lolita communities in the Western world. These communities try to maintain the core principles of Lolita but often have difficulty navigating cultural differences and have to work harder to explain their fashion choices to outsiders.

#### Boys for Bows: The Role of Men in Lolita Fashion

With its focus on elegance and femininity, it may be surprising to learn that men have played a crucial role in the development and popularization of the Lolita subculture. Before the turn of the century, Lolita fashion was largely unknown outside of Harajuku. After the release of the movie *Kamikaze Girls* by Tetsuya Nakashima in 2004, Lolita became increasingly popular. Soon afterwards, Mana, the leader of the band Malice Mizer, became an influential figure in the Lolita fashion world. His personal style consists of both gothic and Lolita aesthetics and the launch of his brand Moi-meme-Moite did not only appeal to women, but it also invited men to explore a more delicate yet powerful style.

The result was a growing number of men engaging with Lolita through Boystyle, its masculine counterpart. Boystyle typically features breeches, waistcoats, blazers and button-up shirts. It allows men to embrace and display their vulnerability and softness by incorporating some elements of the Lolita aesthetic into their fashion without having to fully conform to traditional notions of femininity.



Figure 4: Immortal Thorn. (2024). An example of Boystyle [Digital image]. Immortal Thorn An Immortal Glass Castle Ouji Coat, Corset and Pants [Product]. My Lolita Dress. Retrieved November 13, 2024, from https://www.my-lolita-dress.com/Immortal-Thorn-An-Immortal-Glass-Castle-Ouji-Coat-Corset-and-Pants-p2539923.html

Lolita fashion is a misunderstood yet powerful form of self-expression and autonomy. It reflects the feminist principles of choice and empowerment. Through Lolita, many women (and men) can challenge tradition and define femininity on their own terms. Empowerment through fashion is important because it invites us to reflect on culture and gender. In the future, Lolita fashion may expand to include a wider range of body types, cultures and gender identities. It will likely become a creative space for people to explore their personal identity and self-expression as well as storytelling through clothing beyond mainstream fashion norms.

#### References

Carroll, L. (1865). Alice in Wonderland. S. French. (Original work published 1865)

- Kawamura, Y. (2006). Japanese teens as producers of street fashion. Current Sociology, 54(5), 784–801.
- Lolita Fashion Wiki. (n.d.). Lolita styles. Fandom. Retrieved November 2, 2024, from https://lolitafashion.fandom.com/wiki/Category:Lolita\_Styles
- Merriam-Webster. (2024). Lolita [Definition]. In Merriam-Webster.com dictionary. Retrieved November 26, 2024, from https://www.merriam-webster.com/dictionary/Lolita#:~:text=noun, %3A%20a%20precociously%20seductive%20girl
- Monden, M. (2013). The nationality of Lolita fashion. In F. Nakamura, M. Perkins, & O. Krischer (Eds.), Asia through art and anthropology (pp. 165–178). London: Bloomsbury.
- Nguyen, A. (2016). Eternal maidens: Kawaii aesthetics and otome sensibility in Lolita fashion. East Asian Journal of Popular Culture, 2(1), 15–31. https://doi.org/10.1386/eapc.2.1.15\_1
- Pearlie Cute. (2021, July 23). Melanie Martinez & Lolita fashion: A video essay [Video]. YouTube. https://youtu.be/P\_rh4ATzknA?si=lm9mjR\_G9OIsjHJT&t=1
- Pearlie Cute. (2021, June 4). The Lolita fashion iceberg [Video]. YouTube. https://youtu.be/ JxuEFPqINjw?si=S1SoaXI-FLIj1-ia
- Saito, K. (2014). Magic, "shojo," and metamorphosis: Magical girl anime and the challenges of changing gender identities in Japanese society. The Journal of Asian Studies, 73(1), 143–164.
- Toivonen, T., Norasakkunkit, V., & Uchida, Y. (2011). Unable to conform, unwilling to rebel? Youth, culture and motivation in globalizing Japan. Cultural Psychology, 17(2), 206–227.
- Younker, T. (2011). Lolita: Dreaming, despairing, defying (pp. 97–110). New York University.
- Yumiko, E., Eino, Y., & Long, P. (1993). Japanese feminism in the 1970s and 1980s. U.S.-Japan Women's Journal. English Supplement, 4(1), 49–69.
- Yumiko, I. (2005). Beyond the 'feminization of masculinity': Transforming patriarchy with the 'feminine' in contemporary Japanese youth culture. Inter-Asia Cultural Studies, 6(1), 56.

# **Beyond Bullets: The Role and Effectiveness of Media in the Russia-Ukraine Conflict**

\_\_\_\_\_

#### Cal Gilbertson

#### Writer's Statement and Abstract

This paper analyzes the usage of media in the Russia-Ukraine conflict starting with the 2014 annexation of Crimea and follows the evolution of media usage up to the conflict in its form today. I first became interested in this topic after the expansion of the conflict in February of 2022, and was given the opportunity to explore the topic more in my composition UN 1015 class. The paper begins with an overall history of the conflict, then dives deeper into the methods and usage of media by both sides, describing their focuses, strengths and weaknesses. Following this, I examine the strengths and weaknesses of each side's methods, then determine which side is more effective both with and without considering external factors. As a result of my research, I have determined that without considering external factors, both Russia and Ukraine's methods are equally as effective; however, when taking into account other external factors, Ukraine comes out slightly ahead in terms of effectiveness. I wrote this article to get readers interested in the conflict and give some insight into just one of the many facets of this 21st century conflict.

#### **History and Background**

On February 24th, 2022, Russia launched an invasion, or what they called a 'special military operation,' into Ukraine. It quickly became one of the largest conflicts in recent history. After just a few weeks of fighting, it became clear that this conflict would be unlike any other conflict seen before in history. Both Russia and Ukraine are developed nations with ubiquitous access to technology, and this technology is what made, and is making, this a very different and unique conflict. Although nearly all aspects of this conflict are altered by technology, media access and availability are arguably the area most altered by technology. As a result of media access and availability, it has become a major factor in the conflict, with not only civilians using it, but both Russia and Ukraine using media to play to their advantage. While both sides effectively utilize media to their advantage when not taking into account external factors, neither side has a decisive advantage over the other as they focus their influence in the media in very different areas.

The beginning of the conflict didn't start in 2022; It started February 20th, 2014. On this date, Russia illegally annexed the Ukrainian peninsula of Crimea by seizing power of its local assembly. They then staged a referendum on union with Russia where Russian voting officials claimed that 95.5% of voters supported union with Russia. Along with this illegal annexation, Russia has been supporting separatists in the eastern regions of Donetsk and Luhansk in Ukraine since 2014, and those groups had gained some control prior to the invasion in 2022 (Walker, 2023). What Russian officials had originally expected to be a quick invasion and annexation has developed now into a more than 20 month conflict. Ukrainian casualties are nearing 180,000, Russian casualties nearing 300,000, and each side has lost 4,700 pieces of equipment and 13,020 pieces respectively as of August 18th and November 7th respectively (Barnes et al., 2023; Janovsky et al., 2022).

Since the annexation in 2014, both Russia and Ukraine have been developing, implementing, and refining different and new methods to utilize media in their favor, with varying degrees of success. As time passes, they refine their methods. While they may now use the same media platforms to spread their messages, their actual messages vary. In most cases,

Russia focuses more internally, trying to disinform and "uninform." On the other hand, Ukraine is focusing its efforts more externally, trying to influence and persuade. Both of these areas of focus are effective for the goals that each side is trying to accomplish, so to understand which side utilizes media more effectively, the actual methods need to be better understood. Ukrainian Methods

Ukraine has a couple of highly effective and creative methods for projecting external influence: spreading propaganda in the form of memes, and using personal channels and accounts of Ukrainian government officials to ask for support rather than typical diplomatic channels (Tilton, 2023). How effective is it? As of July 31st, 2023, Ukraine has received \$237.9 billion in aid (Bomprezzi et al., 2023). Although all of this aid cannot be attributed entirely to the media persuasion campaigns, those campaigns are a major reason as to why Ukraine has received so much. Ukraine decides to focus their attention on getting external attention and aid due to their situation: compared to Russia, they are smaller by nearly every measure: land size, population, GDP, number of active military members, number of military equipment, and representation on the world stage. With a seemingly massive disadvantage when comparing numbers directly with Russia, Ukraine needs immense support from external sources, and that is garnered through their focus on the social media front. This focus can be evidenced by the refinement of the format and timing of their media activity. The Ukrainian people and accounts who are most focused on garnering this external attention post content in formats and languages that best fit the Western countries that are most likely to support them, along with following peak active times in those Western countries as opposed to the peak active times in Ukraine (Tilton, 2023). The effectiveness of these efforts is still being understood, but initial studies show that it is very effective, and at least in this specific area of external persuasion, far more effective than Russian efforts (Geissler et al., 2023).

Overall, Ukraine has demonstrated that they are very effective with selecting and executing their propaganda and influence externally over social media – far more effective than Russia – because they have been focusing more of their attention and efforts on this area.

#### **Russian Methods**

While Ukraine may heavily focus on effective external influence, Russia has shown that they both care less and are less effective in the area of external influence. Russia has procured weapons and ammunition from external sources, but it has mostly been an even trade through diplomatic channels, rather than a 'gift' that came about by support of the people of some Western country (Madhani, 2023). While Ukraine was focusing its external media campaigns on garnering support, the much smaller and less effective Russian external media campaigns have been entirely focused on directly discrediting Ukrainian campaigns. There likely have been some cases where Russia has been successful, but there is no evidence that it is widely successful, as can be seen by the amount of support Ukraine has received. On top of that, Russia lacked general support to begin with – despite the fact that both Russia and Ukraine stemmed from the former Soviet Union, Russia is most commonly associated with it, and existing prejudice towards them mostly outweighs the little discreditation there is. Russia's external discreditation campaigns are very ineffective due to both their small size and lack of existing support prior to the campaigns.

What Russia lacks in its external influence, it nearly makes up for in its internal influence; the Russian government has nearly total control over the media available, what media can be created, and how media is represented within the country. Russia has many media-related laws in place that are very restrictive on reporting and access, making it essentially impossible to report on or give access to any information the Russian government doesn't want its citizens to see. Following the beginning of the wider conflict in 2022, "Russia [blocked] or [censored]

another estimated 3,000 websites and independent news outlets" on top of the "200,000 websites in 2021" (Sloane, 2022, 20). Their actions show the lengths Russia will go to to misinform its own citizens, just to keep its war going smoothly. The idea is that if their people don't understand the conflict, they won't question it. Thus far, this method has been mostly effective (Geissler et al., 2023). While their attempts have been mostly effective, they haven't been entirely successful – the use of VPNs (virtual private networks) tools to access websites and apps that are blocked, have skyrocketed in Russia. There has been an ongoing 'battle' between VPN providers and the Russian government, with the Russian government finding ways to detect the VPNs, then the VPN providers finding ways to circumvent that detection (Reuters, 2023). This smaller 'battle' and many others like this, where the Russian government is going back and forth with private Western companies, have been an additional exhaustion point on Russia's resources that it could otherwise be dedicating to focus on media influence.

Another method Russia employs to exert their internal influence is hiring programmers to make immense numbers of bots to spread their misinformation through multiple different media channels. The bots are simple programs and scripts that will post, repost, and give attention to other Russian propaganda. Because these bots are so rudimentary, they will inevitably spread outside of Russia, and the unintentional influence here is arguably more effective than Russia's dedicated external media campaigns, at least in certain areas (Asmolov, 2018, 71).

Overall, while Russia has been fairly effective in their internal influence, it isn't quite perfect. This stems from the general difficulty of convincing an entire people and the need to focus their attention on many more areas than Ukraine, in order to achieve a similar level of internal success that Ukraine achieves externally.

#### **Contrasting Each Side**

While Russia is quite effective at internal misinformation. Ukraine is also effective at informing its citizens. Both sides have robust communication networks in place, and they both use them to their advantage. Despite being structured very similarly with both countries stemming from the Soviet Union, they focus their attention on different areas of the conflict and bend the truth to support their side more. Although documentation of TV reporting on the broader conflict is lacking, reporting within the two countries following the 2014 annexation highlights how they are similar and how they differ. While Russia is often focused on the political side of the situation at hand. Ukraine is more often focused on the military side of it. This is often because the Ukrainians see these affairs as much closer to home than Russians do. Russia has been involved in global affairs for centuries, and is a strong player on the global stage, unlike Ukraine, which wasn't even a sovereign state until 1991 (Dolgova, 2023, 337). Despite this difference in reporting, both sides tend to bend the truth at least somewhat to make themselves look better, and as a result, Russia's TV reporting is generally more effective because their citizens have less access to credible sources, so there is less reason to not believe what is reported on TV (Parshina-Kottas et al., 2022). Essentially, even though Russia and Ukraine focus their TV reporting on different areas, Russia is slightly more effective in this area because they can bend the truth a little more without consequence due to the lack of existing information available to the people.

#### **Final Analysis and Conclusions**

After understanding the dynamic of media usage and effectiveness in different areas, it appears that there is no definite clear winner between the two when looking at what each country alone can do. Russia appears quite strong in the internal influence due to their laws and policies, and they play this to their advantage, bending the truth more in reports, and focusing more of their social media influence on internal misinformation and disinformation. On the other

hand, Ukraine is quite effective in influencing third parties to support itself, and it plays its more limited resources and assets very effectively. When considering just the effectiveness of the actual campaigns, it appears that Russia may come out slightly on top due to both their numbers and internal policy control advantages; however, there is more at play here.

While Russia may appear to have an advantage over Ukraine in simple terms, this conflict is not actually that simple. There are additional external factors that come into play when looking at this media conflict. Ukraine doesn't need to focus nearly as much effort on keeping its people supportive as Russia does, as Ukraine already has very strong morale in defending its land, but many Russians who have not been as influenced by Russian media campaigns see it as a useless conflict (Johannesson, 2020, p. 256). On top of that, Ukraine benefits from the pre-existing bias against Russia due to the strong association of Russia with the former Soviet Union. Although the Soviet Union dissolved over 30 years ago, Russia was the largest Republic in the Soviet Union with the capital of Moscow residing there, and after the dissolution, nearly all weapons, treaties, trade deals, and positions within groups such as the United Nations were directly transferred to the new Russian government. All of this adds up to cause many Western countries and peoples to still associate it with Russia, making Ukrainian external influence far more effective. When all external factors related to media are taken into account, Ukraine comes out ahead due to the existing discreditation of Russia and the much higher base morale existing in Ukraine as opposed to Russia.

In summary, when strictly comparing media usage and effectiveness without considering outside factors, Russia and Ukraine appear to be nearly equivalent in terms of effectiveness, with Russia coming out slightly on top. However, when taking into account existing external factors directly relevant to media campaign effectiveness, Ukraine ends up coming out ahead. Although it is hard to directly compare the effectiveness of each campaign when their methods focus on completely different geographical regions, it can be concluded that, with external factors like preexisting bias and morale, Ukraine does come out ahead in overall effectiveness. This is seen in the immense support they receive from Western countries compared to little to no additional support Russia's media usage provides to the campaign. The distinct variance between Russia's assumed strength and actual effectiveness of media campaigns could forecast a potential outcome of the conflict in Ukraine, especially when considering the additional external factors at play that don't influence the media campaigns.

#### References

Asmolov, G. (2018). The Disconnective Power of Disinformation Campaigns.. Journal of International Affairs, 71(1.5), 69-76. JSTOR. Retrieved November 9, 2023, from https://www.jstor.org/stable/26508120

Barnes, J. E., Cooper, H., Gibbons-Neff, T., & Schmitt, E. (2023, August 18). Ukraine War Casualties Near Half a Million, U.S. Officials Say. The New York Times. https://www.nytimes.com/2023/08/18/us/politics/ukraine-russia-war-casualties.html

Bomprezzi, P., Bushnell, K., Frank, A., Kharitonov, I., Schade, C., Weiser, L., & Trebesch, C. (2023, July 31). Ukraine Support Tracker I Kiel Institute. Kiel Institute for the World Economy. Retrieved November 7, 2023, from https://www.ifw-kiel.de/topics/war-against-ukraine/ukraine-support-tracker/

Dolgova, Y. I. (2023). Russia and Ukraine in the mirror of each other's TV channels. RUDN Journal of Studies in Literature and Journalism, 28(2), 333-343. RUDN University. 10.22363/2312-9220-2023-28-2-333-343

- Geissler, D., Bär, D., Pröllochs, N., & Feuerriegel, S. (2023, September 12). Russian propaganda on social media during the 2022 invasion of Ukraine. EPJ Data Science, 12(35). 10.1140/epjds/s13688-023-00414-5
- Janovsky, J., naalsio26, Aloha, Dan, & Kemal. (2022, February 24). Attack On Europe: Documenting Russian Equipment Losses During The Russian Invasion Of Ukraine. Oryx. Retrieved November 7, 2023, from https://www.oryxspioenkop.com/2022/02/attack-on-europe-documenting-equipment.html
- Johannesson, J. (2020, June). The Critical Role of Morale in Ukraine's Fight against the Russian Invasion. Open Journal of Social Sciences, 8(6), 252-260. Scientific Research. 10.4236/jss.2020.86022
- Madhani, A. (2023, October 13). US says North Korea delivered 1000 containers of equipment and munitions to Russia for Ukraine war. AP News. https://apnews.com/article/north-korea-russia-us-munitions-ukraine-war-7091eaba254b680888a9b1ec8a68135f
- Parshina-Kottas, Y., & Thompson, S. A. (2022, May 6). The War in Ukraine, as Seen on Russian TV (Published 2022). The New York Times. https://www.nytimes.com/interactive/2022/05/06/technology/russian-propaganda-television.html
- Reuters. (2023, November 12). Russia to limit only VPN services which pose a 'threat' to security, RIA reports. Reuters. https://www.reuters.com/technology/cybersecurity/russia-limit-only-vpn-services-which-pose-threat-security-ria-2023-11-12/
- Sloane, W. (2022, September 1). Putin Cracks Down on Media. British Journalism Review, 33(3), 19-22. 10.1177/09564748221121468
- Tilton, S. (2023, March 29). The Ultra Lord of the Ukraine Special Operations' Agricultural Division: How memetic artifacts provides a foundation for the historical archiving of conflicts. Cognet Social Sciences, 9(1). 10.1080/23311886.2023.2193440
- Walker, N. (2023, August 22). Conflict in Ukraine: A timeline (2014 eve of 2022 invasion) House of Commons Library. The House of Commons Library. Retrieved November 7, 2023, from https://commonslibrary.parliament.uk/research-briefings/cbp-9476/

# The Representation of Autism Spectrum Disorder in Fictional Media

#### **Emma Schmidt**

When one thinks of autistic characters in fictional media, a particular image comes to mind: a white, heterosexual man that is a genius when it comes to math or science and never forgets anything. He may also be socially inept and is often played for laughs, especially when it comes to the prospect of attempting to woo a lady. This applies to most characters explicitly or implicitly portrayed as autistic: Doctor Shaun Murphy from the show The Good Doctor is applicable to the first aspect, while Sheldon in The Big Bang Theory checks both boxes. An article published by The Science Survey specifically brings up the earliest depictions of autism in movies, stating that, "In the 1970s, most forms of entertainment had aloof, distant, and sometimes mentally incapable autistic characters" (Hwang, 2024). Returning to the idea that autistic characters are often played for laughs, the same article continues by saying, "Others even used autistic characters as comedic relief, making autism or autistic characteristics a punchline for the audience to laugh at" (Hwang, 2024). On the opposite end of comedy, meanwhile, are the depictions in which those with ASD are portrayed as "dangerous and incontrollable[sic]" (Jones, 2023). Once again, an example of this can be seen in the television show The Good Doctor in which Shaun violently smashes vials of expired medication on the floor or yells at one of his superiors while having a meltdown.

In addition to common tropes, the vast majority of depictions of Autism Spectrum Disorder take the appearance of an individual with severe symptoms. A study performed with the intention of evaluating the accuracy of fictional portrayals of autism as well as their impact on viewer knowledge states, "Garner et al. (2015) reviewed 15 films from the period 1988 to 2010 and reported that 13 of the films scored in the severe symptoms of autism category on the CARS2-ST" (Jones, 2023). The CARS2-ST in question refers to the Childhood Autism Rating Scale, which can be used on individuals between three and twenty-two years of age, while other studies referenced in the article utilized other diagnostic tools such as the DSM-5, which is the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. In addition to the already high representation of severe symptoms of Autism Spectrum Disorder present, "Nordahl-Hansen, Tøndevold and Fletcher-Watson (2018) reviewed 22 films and four TV series and found that characters typically demonstrated a very high match to DSM-5 criteria, with seven of the characters scoring the maximum possible on the total symptom scale" (Jones, 2023). With seven characters out of 26 works of fictional media scoring the maximum possible score in regard to their symptoms—one character per work—27 percent of autism representation present in the media reviewed portrayed the characters as being severely autistic. Beyond these seven, it is also mentioned that characters in general tended to be very high matches to the diagnostic criteria set forth within the DSM-5. The article went on to state, "Savant-like skills were reported in 12 of the 26 characters" (Jones, 2023), confirming that a single autistic person was present in each movie or show as well as around 46 percent of them possessing savant syndrome, a phenomenon most likely to be found in individuals with autism or brain damage wherein they demonstrate exceptional aptitude in one area. While not every character with autism present in television is on the more severe end of the spectrum, the statistics show that the vast majority of portrayals more than meet the requirements.

In comparison to the autism community, which is made up of individuals from all walks of life as well as with all types of symptoms to varying degrees, diversity was nearly non-existent in fictional media until more recently. Even now, with several films and shows breaking stereotypes, the proportions established by studies such as those examined by Jones (2023) are still far from accurate when put up against the actual statistics. In the discussion section of

their article, the authors write, "Portrayals of autism in film tend to focus on individuals with high support needs (e.g. full-time care and support), thus disregarding the varying levels of support that may be required by different individuals on the spectrum." The representation of those across the spectrum rather than in the most extreme ranges is severely limited, given that. according to The Centers for Disease Control and Prevention, "The percentage of 8-year-old children with profound autism among those with autism was 26.7 percent" (Autism Science Foundation, 2023). While this study was clearly not conducted on adults, while autism symptoms may lessen as one ages and learns to manage them, the disorder itself does not disappear. When compared to the 46 percent rate of savant-like skills present in the 26 characters previously mentioned in Jones's report (2023), the rates found in fictional media do not coincide with the reality of the disorder. Furthermore, the number of autistic individuals actually estimated to have savant syndrome as opposed to those with profound autism is "only 0.5% to 10%" (Hwang, 2024), displaying the high levels to which the prevalence of the disorder is overblown. Beyond this, the portrayals themselves tend to show savants as possessing highlevel skills and knowledge when it comes to subjects such as math or science, when in reality, it could guite literally be anything from the etymology of language to the ethical killing of cattle. Focused representation on only a specific subset of the disorder, and poor representation at that, can lead to issues of understanding among neurotypical individuals.

When it comes to the topic of diversity, autistic characters are severely lacking in terms of racial background, sexual orientation, and gender identity. Several sources, from the academic articles mentioned thus far to YouTube video analyses, have pointed out the discrepancy. One of the former, the academic article written by Sandra Jones (2023), states very plainly, "There is a need for greater diversity in representation of autism in fictional media. For example, not all autistic people are white heterosexual males." This statement is corroborated by one of the latter, a video published by the creator Jessica Kellgren-Fozard. While she is not autistic herself, Kellgren-Fozard does possess a BA in Film History from the University of Brighton, is known for her videos on disability awareness, and was joined in the video in question by two autistic creators: MiffedLuke, whose content is centered around his life with both autism and dyspraxia, and Annie Elainey, who focuses on her "Observations and experiences with body image, gender, race, LGBT+, disability, chronic illness, and mental health" (Elainey). During the section of her video titled "Hollywood Autism." Kellgren-Fozard says nearly the same thing as Jones (2023): "The pop cultural Hollywood representation of autism is probably one you're pretty familiar with: He's a white, cisqender, heterosexual male, usually a child but if he's an adult, he might as well be a child" (Kellgren-Fozard, 2020). While it is unclear whether she means to refer to the prevalence of autistic individuals with high support needs or being a quote unquote "manchild," neither representation is constructive. The former adds to the image of all autistic individuals having severe symptoms, while the latter forms a stereotype of immaturity.

This is not to say, however, that all representation of autistic individuals in fictional media is poor. In fact, as highlighted by an article published by the Organization for Autism Research, several more recent shows and Disney short films move away from these common tropes. This was accomplished by not only having autistic people of color, but also displaying often overlooked aspects of the disorder. One such short film, *Loop*, is centered around a non-verbal girl with autism as well as a "bubbly young boy" (Gambacurta, 2020) while they venture out on a canoe trip. A second short film, *Float*, portrays a father who discovers his son has the ability to do exactly that: float and defy gravity. The father tries to hide his son's ability from others to maintain the illusion of normalcy, and raising the child comes with challenges. This is a representation of the writer and creator of the film, Bobby Alcid Rubio, and the experiences he faced with his autistic son, who was the inspiration for the film. Beyond fictional characters, ABC Australia's *Love on the Spectrum* broadcasts a dating show in which each individual participating is diagnosed with Autism Spectrum Disorder. This not only brings very realistic

depictions of autism into the limelight, but disproves the prevailing stereotype that autistic people are, "Unable to form interpersonal relationships".

Moving even further away from Hollywood, a few Korean dramas, commonly referred to as K-dramas, portray characters with autism in a less stereotypical manner than other pieces of fictional media. While one such show, titled Extraordinary Attorney Woo, does include a character with savant syndrome, director Yoo In-shik was, "Careful to not glorify autism and put neurodivergence on a pedestal" (Hwang, 2024). The show took care to not only show the "superhuman" aspects of the workings of Woo's mind but also portray the less-super side. Like many autistic people, Woo has difficulty maintaining eye contact and is sensitive to both touch and loud noises. The trait that tipped the scales toward objectively well-done representation. however, was the inclusion of echolalia, the repetition of words said or noises made by other people. This fairly common aspect of autism, especially found in children but still prevalent in adults, is something mentioned only a single time throughout the expanse of the numerous sources used thus far. A second K-drama by the name of It's Okay to Not Be Okay, meanwhile, moves away from the savant trope. It is introduced in the article with this very point, stating, "With the media choosing to focus on the "genius" side of autism, they tend to under-represent those who do not have savant syndrome. If not, they are perpetuating the idea that many autistic people have incredible skills in their field of interest, which isn't always the case" (Hwang 2024). The character of Moon Sang-tae does not have an incredible memory or skill with academics, but rather has an intense fear of butterflies, has a stutter, and avoids eye contact. Furthermore, the actor himself did a "copious amount of research" (Hwang 2024) in order to ensure that his portrayal of Sang-tae was as accurate as possible. These portrayals along with several others, however, are only becoming more common in recent years and have to stand up to the historic misrepresentation of the movies and shows that came before.

Unfortunately, while progress is being made toward more accurate portrayals, the stereotypes present in fictional media can lead to real-world stigmas that affect the autistic community. If someone's only exposure to autism is through a movie or show that paints the disorder in a less-than-ideal light, their perceptions of Autism Spectrum Disorder may be skewed as a result. A concern regarding this was brought up by Jones (2023), as they ended their section on the impact of autism representation in fictional media by writing, "This is especially an issue for younger consumers as exposure to problematic portrayals of autism may impact their early perceptions of autistic persons, which provides the foundation to the formation of negative attitudes that may persist throughout their life span." Such negative attitudes can lead to real consequences towards autistic individuals, as stigma often results in discrimination or bullying behaviors. Due to this, many diagnosed with autism deign to not disclose their disorder to employers, friends, or even family. A study documenting the disclosure of one's diagnosis through social media reads, "Disclosure can result in increased understanding, acceptance, support or strengthened relationships, but it may also expose the autistic person to being dismissed, judged or misunderstood" (Edwards et al. 2023). As such, autistic people may decide that the risks of disclosure outweigh any potential benefits they may gain from potential existing support systems. In order to prevent others from seeing their authentic selves, they may engage in a behavior known as masking; however, while this may alleviate potential discrimination, it can also lead to an increased risk for difficulties with their mental health. Furthermore, in the event of non-disclosure, autistic individuals may not receive the support they need in order to succeed in higher education or employment.

The title of this article alone captures just how misunderstood Autism Spectrum Disorder is among neurotypicals, declaring, "Most people have no idea what autism is" (Edwards et al. 2023). The data gathered within the article was acquired over the expanse of three years, utilizing social media posts via Reddit and Twitter to gain what researcher data could not. Four specific trends emerged from what was collected, a total count of 3121 posts: "People do not

understand autism (with experiences related to employment, dating, healthcare and mental health), autistic people just want privacy and respect, autistic people can lead us forward and non-autistic people need to assume more responsibility" (Edwards et al. 2023). An example of the first theme is the denial of one's diagnosis by others with the belief that they are faking their disorder for attention. Other users recounted tales of being offered "cures" for a disorder that cannot be taken away, such as crystals or detoxing, further contributing to the obvious lack of understanding. A subsection of the analysis of the first theme dives specifically into the portrayal of autism in both the media as well as movies and shows. One user noted, in reference to the movie *Music* by Sia, that such portrayals made them feel, "Infantilized and stereotyped" (Edwards et al. 2023). They went on to say, "This is why I STILL have issues embracing my autism and disclosing to others" (Edwards et al. 2023). Not only does poor representation in fictional media affect the knowledge level of neurotypicals in regard to autism, it also negatively affects those diagnosed with the disorder.

While the portrayal of Autism Spectrum Disorder in media has improved in recent years, there are still significant gaps between proper and stereotyped representation. The over-reliance on such stereotypes and tropes not only is not representative of the autism community but also continues to skew public perception of the disorder. The portrayals fail to capture the diversity and varied experiences of those who actually have autism, as goes the saying that frequents autistic spaces on social media, "If you've met one person with autism, you've met one person with autism." Each and every person is unique, and this is no different for autistic individuals. Further research, however, could take a deeper look into how genuinely authentic portrayals could impact the understanding and empathy of viewers through the involvement of autistic writers and actors. Additionally, the long-term effects of such stereotyped representations on the general population could be researched, as well as how a shift toward broader portrayals might affect this.

#### References

Autism Science Foundation. (2023, April 19). CDC Reports Profound Autism Statistics For The First Time [Press release]. https://autismsciencefoundation.org/press\_releases/cdc-profound-autism-statistics/

Edwards, Chris, et al. (2023, August 22). "Most People Have No Idea What Autism Is": Unpacking Autism Disclosure Using Social Media Analysis. *Autism*, *28*(5) https://doi.org/10. 1177/13623613231192133

- Annie Elainey. (n.d.). Channel Page. [YouTube channel] YouTube. Retrieved December 2, 2024, from https://www.youtube.com/channel/UCznS4Pk3VcTlfDUuWrQtdzQ
- Gambacurta, Corinne. (2020, January 6.). *Autism Representation in the Media I OAR*. Organization for Autism Research, https://researchautism.org/oaracle-newsletter/autism-representation-in-the-media/
- Hwang, Arianna. (2024, January 16). *The Good, the Bad, and the Ugly: The Portrayal of Autism in the Media. The Science Survey*. https://thesciencesurvey.com/arts-entertainment/2024/01/16/the-good-the-bad-and-the-ugly-the-portrayal-of-autism-in-the-media/
- Jones, Sandra C, et al. (2023, Feb. 19). Representation of Autism in Fictional Media: A Systematic Review of Media Content and Its Impact on Viewer Knowledge and Understanding of Autism. *Autism*, *27*(8), https://doi.org/10.1177/13623613231155770

## Paw Prints, Vol. 1, No. 1

Kellgren-Fozard, Jessica. (2020, August 4). *Autism Tropes in Media [CC]* [Video]. YouTube. www.youtube.com/watch?v=k7q2A3ic0-w

# **Space Exploration and its Advancing Future**

## **Noah Taylor**

#### **Writer's Statement**

My whole life I have loved astronomy. It has been my favorite form of science. I constantly stay up late just to look at the planets and stars. The reason I'm so interested in the future of space exploration is because as a kid I fell in love with the movie *Interstellar*. In this movie humanity has abandoned space exploration in hope to focus all of their attention on a dying Earth. They do what they can, but it only puts off the problem for the future. It is then that a former pilot and a few more crew members are sent out to find a more habitable planet. Through their journey they find information and data that they send back to Earth, which allows for a solution to save humanity. This movie is the perfect representation of what we are dealing with now. Many people don't see space exploration as "useful" or "contributing to humanity." They also claim that everything that has been useful is in the past and it's not helping anymore. That is because they don't see the full picture of what it has given us and has to offer. This article hopes to show people that space exploration is useful and not only that, but it is still advancing and is contributing to humanity in more ways than they think. It may not seem like it but when the time comes, we will turn to the vast cosmos for answers, and you may find that it's not as dark and empty as you would have guessed.

Space exploration has been part of human history for hundreds and even thousands of years. Throughout time it has achieved many great feats attributed to large portions of human life, and advanced technology further than early humans ever could have imagined. Originally, humans were only able to study the heavens by observing it from Earth. But now, after years of technological improvements, such as space telescopes and rockets, humanity can study space through an array of different methods that give us the ability to have hands-on experiences. But what can we expect for the future? How else can space exploration be advanced? What can we gain from space exploration? These are all very popular questions and have led people to constantly question if we should continue space exploration at all. If we aren't getting anything new from it, is it worth spending time and money on it? There is a very common misunderstanding about space exploration though. That would be the belief that space exploration has stopped advancing. On the contrary, it is still advancing, reaching new heights, and it is still contributing to society. From basic contributions to major advancements, space exploration is making a difference in this world, and it may even be cheaper than most have expected. This article hopes to prove that space exploration is advancing rather than halting.

Defining space exploration is a good start because it will help avoid confusion as to what is and isn't space exploration. Space exploration, defined by the Earth and Space Expedition Center of Arizona, is the investigation of celestial bodies outside Earth's atmosphere using a variation of different methods (2024). Some of these methods include the use of telescopes, satellites, manned missions, or just the human eye. Each of these methods provides large amounts of information to astronomers. Astronomers then use the information discovered through these studies to help improve human life and to grasp a better knowledge of how the world works. There are also many different areas of space exploration. Some of these include the study of other planets, stars, moons, and even galaxies. Each of these areas combine to make up the overarching study of space exploration. Most of the studies are so people can understand more about the universe, but space exploration also contributes to the economy. In fact, a source from The European Space Agency states, "Space economy is defined by OECD

as the full range of activities and the use of resources that create value and benefits to human beings in the course of exploring, researching, understanding, managing, and utilizing space" (2012). This, and in many other ways, is how space exploration can help humanity. When astronomers discover information, that info can be applied, in some way, to humanity. Some of the ways that it is applied to humanity are through the use of technology, or another is by providing information that can change the way humans live their life.

To address the history of space exploration I will only be covering a brief overview of it. Although it may not seem like it, space exploration has been involved in human history for a very long time and would take quite a long time to cover entirely. To start, space exploration has been involved since the time of Aristotle, Socrates, and many other great philosophers. In fact, it was involved even before that point. People would constantly study the stars, moon, and sun to try and understand how the world functioned. Some of the things we were able to develop throughout the studies were: a daylight cycle, how the solar system functions, etc. As astronomy continues to advance, so does technology. The telescope was invented and used by the famous Galileo, rockets launched satellites which we still use today, and a man landed on the moon. The difference between just studying space by the human eye and what we can achieve now is staggering. Humanity only dreamed of reaching the stars someday, but humanity was able to achieve this dream. In 300 BC humans used just their eyes to study the universe, but in 1961 Yuri Gagarin was launched into space by the Soviet Union. He was bound for a one-orbit journey around Earth on April 12 (Logsdon, 2024). Compared to only using a telescope to observe the universe or making guesses on how the solar system worked based on the sun, this achievement was, in simple terms, a pretty big deal. This is just one of the major milestones shared by the Encyclopedia Britannica, which is known for its extreme range of information on a large variation of different topics. Because of these major milestones, humanity is now able to use satellites to predict weather, advance day to day technologies, and better understand how the cosmos works. Humanity originally thought that the Earth was the center of the solar system and even the universe, but due to research we were able to discover that we are only a small part of a major system of planets, stars, and galaxies. Each of these advancements and achievements are the backbone to how humanity's understanding of the world has greatly increased since the time of Aristotle.

Currently there are many different major space organizations working to achieve different goals, but there are a few common goals that they share. One of these goals is to establish colonization on moons or other planets such as Mars. Another is to make space exploration available to the public. Some of the most common major space companies are NASA, SpaceX, and Blue Origin. NASA is most known for its incredible history of achievements, one of which was landing a man on the moon. NASA is America's largest space exploration company. It has done a large array of things for the people of the world including ongoing research for healthcare that has helped improve certain breathing treatments for those with asthma (Guzman, 2023). SpaceX is currently working on reusable rockets to lower the cost of space exploration and to make interplanetary travel possible. NASA often faced the problem of cost when trying to get an astronaut to the moon. Rockets are not cheap and require lots of design, testing, and money to develop. SpaceX's research will help slash the cost of expensive rockets. Blue Origins is currently working on making space flights open to the general public, but it is expensive and is only available to those who can afford the flights offered. Each of these companies are working on and contributing to achieving some major goal for the future. This begs the question, what can we expect next in space exploration's story? One of the greatest goals for those involved in space exploration is to hopefully inhabit Mars. To do this there are multiple steps. First, we need a way to get humans there. Second, we need to find a way to sustain life on the planet. Third, we need to put it into action. These are only the most basic of steps and each have their own sub-steps. As one can tell, it is a very large task, but humanity is working hard to hopefully try and accomplish it. For example, NASA plans to launch a new

space station in the late 2020s or 2030s, because of this one can expect more future hands-on studies from space exploration. (The School's Observatory, 2022) This will allow scientists to research ways to live in space as well as gather information about it. If we can find a way to live in space, we are one step closer to inhabiting Mars. Humanity has tried to push towards great achievements like this but they each require hard work and small steps to be accomplished. There are also many missions planned for the future, some of these include: the Artemis missions where astronauts will go back to the moon, new rovers being sent to mars for research and study of its elements, and the development of affordable and sustainable rockets to make space exploration cheaper. In the future, we can expect greater advancements of technology and new ways to study outer space, along with the increase of knowledge that accompany it. With the information provided above we can see that space exploration has not come to a halt and it doesn't seem to be stopping anytime soon. There is always something new to study or research that can give us something back.

It is a very big dream to someday achieve long distance space travel. The Artemis missions contribute to this by trying to make travel to and from the moon easier. They are currently involved in sending manned missions back to the moon for the first time since 1972. While doing this the scientists can study the effects of low gravity and find ways to provide sustainable energy, food, water, resources, etc. SpaceX is also helping with this because if NASA wants to travel to and from the moon they will need rockets. They can't keep building new rockets that aren't reusable because the cost would be extremely immense. With SpaceX's help NASA would be able to make it to and from the moon at a low cost. One day technology and research from Blue Origins may allow the public to travel to the moon. With all the goals and dreams of the people here on earth there is plenty to be working towards in the field of astronomy and science. The large corporations and scientists involved in space exploration are as eager as any other person to one day achieve these great goals.

Now all these new hopes are interesting but are they possible to achieve? Well to be short. we don't know. We can't tell from this point. NASA is constantly doing research to try and find a way to achieve these dreams. Some of them seem to be absurdly unachievable though. There is a large portion of humanity that is interested in being able to live on Mars. While there are many that are hoping for such an accomplishment the article "Could we really live on Mars?" by Patrick Moore states a personal view on its probability and it isn't very promising: "Astronauts will be unable to live on Mars except in very restricted conditions; they will have to stay inside their capsules, inside a base or inside their space suits. Mars is not suited to human visitors" (2005). Mars is not suited for life and that is why it is a barren wasteland, but NASA continues to research it in hopes of finding a solution to this problem. This is the basis for all goals. Discovering problems and searching for solutions. Right now, it may seem impossible to live on Mars but maybe in the future it will be possible. So there is not only something to work towards that is helping space exploration advance, but there is a reason to keep the studies going as well. If we wish to someday colonize Mars, the research must continue so that we will find an answer to the problems that we face. After all, Galileo never would have thought a person would walk on the moon some day and we accomplished that. Because of humanity's determination and hard work, we were able to accomplish a task that seemed out of the question.

As I mentioned earlier, cost was a large factor that played in space exploration and NASA is a public company. This begs the question; aren't public funds being spent on space exploration? It's great to be researching things and achieving great feats but should people's money be spent on this when there are so many other things that could help. Alisha Ramani writes how she believes space exploration shouldn't be continued, "we are putting time and money into finding out if there was a droplet of water on Mars at some point in time thousands of years ago, but for what purpose? Being human should mean prioritizing our society and our

planet over the enormous universe above us" (Ramani, 2023). Ramani offers a very important point, there are so many problems here on earth that need to be taken care of. Is space exploration really providing for humanity if it's taking money from the people and spending it on a rover to explore mars. Some say that the best way space exploration can help is to stop and let its money help solve other problems.

This is a very important thing to consider but there is one large problem. There already is money that is being put toward the problems Ramani is talking about. Tax money goes to hospitals, police services, and homeless shelters. Another problem with their argument is that space exploration doesn't get as much money as it seems. NASA is only provided with around 0.5% of the government's taxes a year (The Planetary Society, 2024). In 2023 America collected around 4.4 trillion dollars in taxes (Congressional Budget Office, 2024). So the 25 billion dollars Ramani talks about is much smaller than it seems. NASA may be given a large amount of money compared to other public facilities, but space exploration returns quite a large amount of useful information and technology. With only 0.5% of the US budget NASA gives people satellite imagery of the world, technology advancements such as CT machines, and much more. This tech can be used to save lives. It may seem that space exploration isn't providing for the better of humanity, but you must look at the full picture to understand why it's important.

If humanity thinks that space exploration isn't providing worthwhile returns for its input time and money, they usually aren't putting in enough time and resources. To get results and returns it takes time for them to appear. A person can't put in one day's work and expect a return of a full year. To get a person to the moon it took years of research and hard work. To keep making such immense advancements from space exploration we need to keep up the hard work. It takes time to get good results, and it currently seems that space exploration isn't doing much, but one day it will show that all the work put in now was contributing to a larger purpose. We need commitment for space exploration to advance and based on past experiences when hard work and time is put into this field there are major results.

In conclusion, our plans for the future of space exploration involve many tasks such as new missions to the moon, establishing life on Mars, and general increase of technology/knowledge. Some of these goals seem out of reach from our current standpoint but by continuing research and studies, humanity may one day achieve these goals. Humanity can expect continued advancements in technology, knowledge, and new achievements in space exploration's future. It is indeed advancing, sometimes slow, sometimes fast, but it has yet to come to a halt.

#### References

Congressional Budget Office, (2024) Revenues in Fiscal Year 2023: An Infographic. https://www.cbo.gov/publication/59730#:~:text=Revenues%20received%20by%20the%20federal, receipts%20from%20individual%20income%20taxes.

Earth and Space Expedition Center (2024) Understanding Space Exploration: Why It Matters to You and Society. https://www.earthandspaceexpeditioncenter.org/what-is-space-exploration-and-why-does-it-matter-to-you/#:~:text=What%20is%20Space%20Exploration?,the%20mysteries%20of%20cosmic%20phenomena.

European Space Agency, (2012) What is the Space Economy? https://space-economy.esa.int/article/33/what-is-the-space-economy

- Guzman, Ana (2023) Space Station Leads to Breakthroughs in Human Health on Earth, National Aeronautics and Space Administration. https://www.nasa.gov/missions/station/space-station-leads-to-breakthroughs-in-human-health-on-earth/
- Logsdon, John M. (2024) Major milestones. Encyclopedia Britannica. https://www.britannica.com/science/space-exploration/Major-milestones
- Moore, Patrick (2005) Could we really live on Mars? BBC Sky at Night Magazine October. https://www.skyatnightmagazine.com/space-science/could-we-live-on-mars
- NASA (2024) Artemis. National Aeronautics and Space Administration. https://www.nasa.gov/humans-in-space/artemis/
- NASA (2024) Living in Space. National Aeronautics and Space Administration. https://www.nasa.gov/humans-in-space/living-in-space/
- Ramani, Alisha (2023, November 15). Stop spending money on space exploration. The Perennial. https://theperennial.org/2763/opinion/stop-spending-money-on-space-exploration/
- The School's Observatory (2022) The Future of Space Exploration. https://www.schoolsobservatory.org/learn/eng/exp/future
- The Planetary Society, (2024) Your Guide to NASA's Budget. https://www.planetary.org/space-policy/nasa-budget

# **School Segregation Impact on Student Success**

#### Bella Vasoli

#### Writer's Statement

Since learning about slavery, segregation, and the Civil Rights Movement in elementary school. I have always been interested in the injustices that Black Americans have faced over the course of United States history. I have always felt that it was very important to be educated about the injustices in this country. It had always disappointed me that my educational institutions had rarely talked about the effects of slavery, segregation, and the Civil Rights Movement, and how they have shaped the current world we live in. I took the opportunity to write a research paper about these topics, and I wanted to specifically investigate the effect of Brown v. Board in the U.S. today and how the Supreme Court ruling has shaped the country. As I began my research, the secondary question arose of whether Black Americans today are still negatively impacted by the segregation that had ended decades ago. This question was very interesting to explore as I found that there are indeed still negative impacts of segregation, and that there is still progress to be made in the way of equality. As my interest in this topic grew, I wanted to specify my area of research to the impacts on academic success of people of color. My goal is to bring awareness to readers of the injustices that are still going on everywhere, but specifically academically for Black students. I hope that readers can engage with the article and become more well-versed — and hopefully interested — in the way the United States is operating after segregation and how the end of segregation was not the end of inequality.

Everything that has unfolded throughout the course of history has shaped the world we live in today and will continue to influence the future that we are building. Throughout the United States's history as a country, it has upheld a system of slavery. In 1865, slavery in the United States was abolished; however, the U.S. then adopted a system of segregation. This forever impacted the country's view of the concepts of justice and equality. When many people began to question the rationale of segregation, the government justified segregation under the reasoning that it was a 'separate but equal' system, but separate was inherently unequal. Eventually, in 1954, the Supreme Court case Brown v. Board of Education deemed school segregation to be unconstitutional. This was monumental for the U.S. because it meant that we were progressing as a country, and this was one of the events that helped to set off the Civil Rights Movement. This ruling created great advancements and opportunities for people of color in the country; however, while it's true that the Supreme Court case greatly advanced equality in the United States, the effects of long-lasting segregation are still negatively impacting people of color today. While there are positive steps and advancing measures currently taking place, such as integration techniques, desegregation plans, and efforts to provide proper funding, these efforts need to increase greatly in order to rectify the decades upon decades of setbacks and hardships African Americans have had and continue to face.

The Supreme Court ruling of *Brown v. Board of Education* helped to set off the Civil Rights movement and give opportunity to students of color. The National Association for the Advancement of Colored People, referred to as the NAACP, was formed, and in the early 1950s, they wanted to claim small victories wherever they could to advance the rights of people of color. According to the NBC News video titled *The Hidden History of Brown v. Board of Education*, one of the NAACP's earliest goals was to desegregate schools (NBC News, 2024). They sent people to try to enroll their Black students into white schools, knowing it would anger many people, with the intent to call attention to the social injustices of the U.S. at the time so

that change could be made. Many Black students also protested and went on school strikes (NBC News, 2024). This intentional controversy eventually worked, creating the case of Brown v. Board of Education. Initially, however, the goal of the NAACP was to create an equal education system, not necessarily integration between Black people and whites (NBC News. 2024). They felt this goal was too lofty. But when the result of the Brown v. Board case ruled segregation to be inherently unequal and therefore unconstitutional, this meant that desegregation now became a reality. This huge step helped to spark the Civil Rights Movement. Black people gained hope that change in the U.S. towards equality was possible and through proper action, legislation could change for the better for them. Brown v. Board also gave opportunity to people of color by proving that action could be made through the court, and that civil change could occur in the courtroom. Clint Smith, author of the award-winning novel, How The Word is Passed, and host of the Crash Course video, School Segregation and Brown v Board: Crash Course Black American History 33, discusses the issue that Blacks in America didn't have representation in their state, so changing laws via legislation was nearly impossible. The court system was one avenue where Black people could fight for their rights (Smith, 2022). To better elaborate on this concept, it's important to know how Brown v. Board came to be and the details that accompany this case.

In June of 1866, the 14th Amendment was passed, and this amendment gave African Americans citizenship. This is important because this meant they had access to certain rights and resources in America (Smith, 2022). However, whites then created Jim Crow laws that hindered African Americans from voting and implemented segregation (Smith, 2022). This segregation ensured that Black people in the U.S. were not able to exercise their benefits of citizenship, which included education (Smith, 2022). The NAACP was then founded and worked towards desegregation, specifically desegregation of schools, all the way back in the 1930s when they drafted the Margold Report (Smith, 2022). There was some progress with colleges and public universities, but with elementary and secondary schools, there was no forward movement (Smith, 2022). This meant that Black children couldn't access a proper primary education, which made getting into university even harder, practically negating the forward movement. The NAACP then compiled five cases, which took about twenty years, to support the case that the 'separate but equal' method of segregation was unconstitutional (Smith, 2022). These compiled cases created Brown v. Board of Education, brought to the Supreme Court in 1953 (Smith, 2022). The people involved in these cases often faced violent threats, lost their jobs, were chased out of their states, and risked their lives fighting for their rights (NBC News. 2024). One particular case was that of Oliver Brown, a pastor in Topeka, Kansas. Oliver Brown tried to enroll his daughter in school, but the principal wouldn't allow it because she was Black, and the school did not accept Black students. Brown then became the lead plaintiff for the Supreme Court case — hence the title Brown v. Board of Education — with twelve other plaintiffs (Smith, 2022). Then, on May 17, 1954, the Supreme Court unanimously decided that segregated public schools violated the Equal Protection Clause (Smith, 2022). Chief Justice Warren said, "separate institutions are inherently unequal." The NBC news video also quoted Chief Justice Warren in his deliberation that separate is inherently unequal (NBC News, 2024). These two videos both highlight the significance of this statement. It was then made clear as to how vital it was that students of color were given the same access to primary public education because it was deemed unconstitutional for them not to receive access to the same public education. There were, however, repercussions and loopholes surrounding this monumental event. Although the ruling was a great advancement for African Americans on paper, in reality there weren't as many positive outcomes as people had hoped, and there were lasting negative effects of segregation even after that point.

Segregation in schools until 1954 drastically set students of color back academically. Before *Brown v. Board of Education*, in many areas, there was only one school for Black children to go to, and it was very far away. Black parents either had to send their children to

school in another county, which was not attainable or realistic for a lot of families or not send their children to school at all (Smith, 2022). The highly limited access to schools prevented the proper education of many young Black people in America. According to Clint Smith, in addition to limited access, the few Black schools that did exist were horrifically underfunded and neglected (Smith, 2022). The NBC News video also provides details about the neglect of the Black schools, describing the overcrowding in all-Black schools, the lack of heating in the winter that made the cold months unbearable, and the leaking in the ceilings that dripped water onto students' papers (NBC News, 2024). What makes the situation even worse is that terrible conditions and negative effects did not end when segregation ended. In the United States today, there is still a significant Black-white test score gap. Card and Rothstein, in Racial segregation and the black-white test score gap, explain, "test scores are lower at schools with higher Black enrollment shares... Likewise, there is a strong negative correlation between education outcomes and the fraction of Black residents in a neighborhood" (Card & Rothstein, 2007, p. 1). It's important to note that correlation does not imply causation and that there are many factors that contribute to test scores and education outcomes, but this evidence proves that there is a noticeable Black-white test score gap. The higher the fraction of Black residents in a given school district, the more likely the school district is to be neglected, and therefore the worse the education outcomes of that school district. Lea Vivian, author of The Influence of School Segregation on Students' Educational Achievement also finds in her studies that as school segregation among a minority group increases, the achievement gap also increases (Vivian, 2017, p. 7). The issues of negligence in Black education and under-performing test scores are still prevalent even after school segregation officially ended seventy years ago. In addition to Black and white test-score gaps, there are overall significant achievement gaps in the U.S. between Black and white students. Sean Reardon and Ann Owens in "60 Years After 'Brown': Trends and Consequences of School Segregation" state that data regarding school segregation and segregation trends may be difficult to collect because there are various, nuanced ways to measure segregation (Reardon & Owens, 2014, p. 200). However, there is no denying that there are segregation trends, and that there are significant achievement gaps between Black and white students across the United States. One way to measure academic achievement in high school is to examine the 'tracking' of students. Tracking refers to which courses students are placed in, like whether they're taking AP classes or not (Vivian, 2017, p. 8). Across schools in the U.S., even in diverse ones, there are much fewer students of color on high-track classes, such as AP classes, and the low-track classes — wherein a majority of students of color reside — result in much lower achievement (Vivian, 2017, p. 8). These measurements prove a clear trend of academic setback for Black students. Another study found that in Riverview High School, a desegregated high school, Black students make up about 40% of the student body, but only 9% of Black students are enrolled in AP Calculus. Meanwhile, whites make up around 50% of the student body, and 82% of them take AP Calculus (Vivian, 2017, p. 8). This study shows that even in desegregated, suburban schools, achievement gaps in the U.S. are very prevalent. Along with achievement gaps, the issue of academic inequality can be further shown in the opportunity segregation, economic segregation, and education segregation that have set students back.

Segregation in schools until 1954 negatively impacted students of color in various aspects, not just academically. After the ruling of *Brown v. Board* in 1954, people still found ways to segregate. This means that the problem of school segregation was not solved. After *Brown v. Board*, most states in the South put into place 'freedom of choice' desegregation plans in which schools made it very hard for Black families to enroll their children into previously all-white schools, allowing for segregation to still be in place despite the Supreme Court ruling (Reardon & Owens, 2014, p. 202). In 1968, 77% of Black students went to majority Black schools, and 50% of Black students went to schools where 90% of the student population was Black (Reardon & Owens, 2014, p. 202). These statistics show that there was essentially zero progress toward school desegregation after *Brown v. Board*, which happened in 1954. Almost

all of the schools in the U.S. were still highly segregated. Lea Vivian also refers to the issue of segregation still being in place even after *Brown v. Board* (Vivian, 2017, p. 2). She emphasizes the point made by Reardon and Owens that schools were still able to segregate by highlighting the weak federal enforcement and the covert 'freedom of choice' systems that essentially created loopholes for the continuation of segregation. NBC News found that some school districts took another approach and went so far as to shut down their entire school district so as not to have to desegregate (NBC News, 2024).

Another variation of segregation and racism is not just where Black students are enrolled in school and the classes that they take, but the attitude of the teachers towards their African American students. The aforementioned Riverview High School study found that even when Black students earned placement in higher level classes, their teachers had lower expectations of them (Vivian, 2017, p. 8). Black students who were interviewed said they could tell that their teachers were not used to seeing Black students being successful, which was a disheartening feeling to them (Vivian, 2017, p. 8). This double standard and differing attitude of teachers, even in integrated schools, demonstrates the unwavering segregation present in the country's schools in the present day. There is an overall view of Black students not being as capable as their white counterparts, which greatly harms the academic success of these Black students. There is no denying that segregation was not abolished completely in schools right after *Brown v. Board*, and this lack of proper change further contributed to the damage in education of students of color.

Since school segregation continued to be in place even after the Supreme Court ruling, Black students had a very difficult time achieving educational success (as shown in the achievement and test score gaps). Educational success directly relates to and impacts economic success, so when Black communities couldn't access proper education, these communities could then not achieve economic success (Smith, 2022). Segregation in schools not only affected the education of Black students, but it also set whole communities back economically as well. The Black-white income gap in the U.S. is further evidence of the economic and opportunity disparities Black people face. A Black household currently makes 59 cents for every dollar a white household makes on average (Vivian, 2017, p. 6). This drastic income gap limits many opportunities for people of color in instances such as properly funded education, socioeconomic growth, financial freedom, and poverty escape. Vivian goes on to state that today there is a trend of whites moving out of integrated communities, from urban to suburban areas. Black people tend to stay in racially mixed areas in urban areas, which tend to be more inclined to less opportunity. This leads to racial and economic segregation, and Black people living in more highly impoverished places. This phenomenon directly leads to more African American students dropping out of school, which leads to fewer college attendees, ultimately causing lower earnings, which impacts residency (Vivian, 2017, p. 3-4). This creates a cycle that is very hard to get out of, which is why these issues still exist in our country today.

Along with racial segregation in schools still being in place after *Brown v. Board*, there was and still is economic segregation. In 2005, the average Black student attended a school where about 60% of the students were considered poor, while the average white student attended a school where only around 33% of the students were considered poor (Reardon & Owens, 2014, p. 204). This statistic shows a very clear pattern of economic segregation demonstrated in schools in the United States of America. Schools in high-poverty areas tend to have significantly lower funding and fewer resources. We can define these resources as physical facilities, skilled teachers and staff, and school curriculum. A large majority of students in these high-poverty areas with lower funding and fewer resource schools tend to be Black students (Reardon & Owens, 2014, p. 204). This is another example of the modern segregation trends we see today and how economic segregation and education segregations are directly correlated and related to one another. Further evidence from Reardon and Owens' study regarding wealth and

academic success also supports the idea that economic and educational segregation are correlated. Reardon and Owens find that poor students — a majority of whom are Black — have less exposure to high-achieving classmates due to the relationship between parental income and school enrollment (Reardon & Owens, 2014, p. 208). With less exposure to more successful students, these poor students have a much more difficult time achieving the academic success than the high-income students do. When students don't see success around them, it's hard for them to find success themselves.

With clear-cut examples and studies showing the existence of segregation in schools today, as well as economic segregation, it is very difficult to deny that these issues are present. With state governments still finding ways to segregate even after school segregation was made unconstitutional, clear evidence showing residential trends of people of color compared to whites and the relationship between residence and education and opportunities, and the achievement, test score, and income gap between Blacks and whites, it's clear to see the negative impact that the long-standing system of segregation still has on our country today. It's important to remember that these racial, civil, social, and educational issues are still problems that need to be dealt with today and that these issues need to be addressed. Change is required to create a system of equal education in America. The U.S. federal government cannot continue to support this system that makes equal education almost unattainable for such a vast population of our country. Closing achievement gaps is both necessary and possible in the United States. Studies from the article Racial segregation and the black-white test score gap show that moving from a segregated city to an integrated city correlates to a 45-point closing of the Black-white SAT test score gap (Card & Rothstein, 2007, p. 3). Studies also show that the more integrated the school, the smaller the white-minority achievement gap is in that school (Vivian, 2017, p. 7). This positive change needs to be a possibility for all so that everyone can better their lives. Studies also find that desegregation in the 1970s led to a 2-to-3-point decrease in the rate of Black students dropping out of high school (Reardon & Owens, 2014, p. 210). Reardon and Owens elaborate and state that the graduation rate for Black students then increased by about 1%, and in addition, they found that desegregation does not have any effect on whites (Reardon & Owens, 2014, p. 211). This means that desegregation benefits Blacks and has no harmful effect on whites, which aligns with Card and Rothstein's studies. There is also evidence showing that desegregation may increase the expectations of teachers for Black students (Reardon & Owens, 2014, p. 212). This addresses the inequality issue of teachers having lower standards and therefore accepting lower academic quality, decreasing academic education. This further proves that the equal opportunity provided by desegregation is necessary for all. For this equal opportunity, there needs to be proper funding to segregated or previously segregated schools. Currently, white families are more likely to be able to move to suburban areas where there are more highly funded schools, while most Black families reside in areas with underfunded schools, which cause lower educational achievements (Vivian, 2017, p. 6). There must be an effort to focus on underfunded schools so as to provide equal primary education for all, regardless of social class, economic status, or residential status. Failing to make this change would be an act of segregation itself.

Brown v. Board of Education and school segregation have had an immense impact on the education of students of color in the United States. Until 1954, schools in the United States were segregated. This meant that students of color could not attend school with the white student population. Since the white schools were the ones with proper funding and resources, this led to better education for white students and poor education for Black students because there was a lack of funding for the all-Black schools. In 1954, when the Supreme Court ruled school segregation to be unconstitutional, America took a step in the right direction towards equality, and the Civil Rights Movement began. Blacks in the U.S. gained opportunities that they did not have previously; however, the long-lasting lack of equal education in America led to achievement and test score gaps, and even though school segregation was declared

unconstitutional in 1954, these gaps in achievement and test scores are still prevalent to this day.

These achievement gaps affect people of color in other aspects of life other than education as well, such as opportunity, financial, and economic aspects. Change in the United States is required in order to create a system of equal education and equality overall. While it is true that the desegregation of schools has greatly advanced our nation and given educational opportunities to students of color, it is simply not enough. The effects of long-lasting segregation have caused issues that desegregation alone could not solve. The United States requires proper action through proper funding to boost the efforts towards desegregation, equal opportunity, and equality. There are efforts being made and studies being conducted that are trying to bring to justice these inequalities and rectify the situation for Black people in this country; however, these efforts need to be heightened and treated with greater intensity in order to bring true equality for all.

### References

Brown v. Board of Education, 347 U.S. 483 (1954) Card, D., & Rothstein, J. (2007). Racial segregation and the black—white test score gap. Journal of Public Economics, 91(11-12), 2158–2184. https://doi.org/10.1016/j.jpubeco.2007.03.006

Johnson, R. (2011). Long-run Impacts of School Desegregation & School Quality on Adult Attainments. National Bureau of Economic Research. https://doi.org/10.3386/w16664

\_\_\_\_\_

NBC News. (2024, May 30). The Hidden History of Brown v. Board of Education. YouTube. https://www.youtube.com/watch?v=VnQYYm-2nsg

Reardon, S. F., & Owens, A. (2014). 60 Years After Brown: Trends and Consequences of School Segregation. Annual Review of Sociology, 40(1), 199–218. https://doi.org/10.1146/annurev-soc-071913-043152

Smith, C. (2022, February 11). School Segregation and Brown v Board: Crash Course Black American History 33 Www.youtube.com. https://www.youtube.com/watch?v=NBlqcAEv4nk

Vivian, L. (2017). The Influence of School Segregation on Students' Educational Achievement. Perspectives-Studies in Translatology, 9(1), 11.



# Meet the Editors

ere, we present some brief background on the members of our hard-working editorial teams. This student-operated journal wouldn't be possible without the help of every person listed here. From the bottom of our hearts, we thank you for reading the first issue of our journal!

# **Editors' Biographies**

**Holly Hassel** has been a Professor in the Department of Humanities and Director of Composition at Michigan Tech University since 2023. She has previously taught at North Dakota State University and the University of Wisconsin-Marathon County. Her areas of expertise are writing studies, writing program administration, and writing assessment.

**Emily Augustyn** is a third year Scientific and Technical Communication Major with an emphasis in writing and rhetoric. She is from Trenary, MI and enjoys spending time with family and friends, baking, and doing anything outdoors.

**Andrew Brodowski** is a 4th year mechatronics student from Rockford, MI, mainly involved in the motorsports side of tech. He has served as CI team lead for the past two years for the clean snow enterprise, and has worked for Monster Energy as a collegiate ambassador. He works at APS labs as a researcher on multiple different projects. In high school, he was involved in FIRST Robotics and band.

**Robert Brownell** is a long-time student of Electrical Engineering, who enjoys building, maintaining, fixing, using, and programming computers of all makes and models. I hope to use technomancy to help sapient or near-sapient creatures live the best and most fulfilling life possible.

**Matthew Buckridge** is a 4th year Computer Science major. He has been involved in a decent number of Enterprises here at MTU including Husky Game Development, IT Oxygen, and HIDE. He enjoys playing games and hanging out with friends.

**Clare Buday** is a third year scientific and technical communications major with a minor in writing. She is from Grand Haven, MI, and loves hiking, backpacking, cooking, and reading.

**Vanessa Dulong** is a fifth year Sound Design major, minoring in Media Production, Journalism and Business. She is from Hancock, MI and enjoys playing music, spending time outdoors and DJing.

**Andrew Eschenauer** is a 4th year Cybersecurity major at Michigan Tech University from Nashville, TN. He enjoys reading, hiking, and scripting.

**Emma Hampton** is a third year Ecology and Evolutionary Biology major minoring in Journalism. She is from Kalamazoo, Michigan and her interests include wildlife restoration, women's sports, and writing.

**Rowan Kerns** is a 3rd year Scientific and Technical Communication major at Michigan Tech. They are from Ann Arbor, MI and love drawing, playing guitar, and spending lots of time outside.

**Alli McDermitt** is a 4th year at Michigan Tech, majoring in Computer Science. She's from mid-Michigan and loves dance music, philosophy, lists, and contradictions.

**Jamie Perlman** is a third year Scientific & Technical Communication major at Michigan Tech from Ann Arbor, Michigan. She loves history, Formula 1, automotive design and engineering, music, the Pleiades, and working on this journal that you're reading, right now!

**Brendan Philo** is a Scientific and Technical Communication with minors in Psychology and Philosophy. He is from Lowell, MI, and he loves bonfires with friends and night drives.

**Ellie Rizk** is a Sustainability Science and Society major. Her most prominent areas of interest are land use, U.S. supply chains, and feminism.

**Jackson Sanderson** is a senior Mechanical Engineering Technology major. Areas of interest are dietary health, music, and history. From Madisonville KY.

**Luke Tennes** is a senior Construction Management student with a minor in Business. Areas of interest include modern construction, collegiate sports, racing sports, history, and anything involving the outdoors. He is from Charlotte, MI.

**Race Woloshen** is a senior Mechanical Engineering Technology major from Caro, MI. His interests include snowboarding, 8-ball pool, baking and painting.

# **Authors' Biographies**

**Cal Gilbertson** is a second year Computer Network and System Administration major with a minor in Cybersecurity. He is from Mequon, Wisconsin, and enjoys photography, and spending time outside biking, hiking, and skiing.

**Caleb Huibregtse** is a first-year robotics engineering major from Sussex, WI. In his free time, he likes to ski, mountain bike, and hike.

**Precious Mubanga** is a first year Chemical Engineering student. She is originally from Lusaka, Zambia but resides in Chicago, Illinois. She enjoys swimming, baking and crocheting.

**Emma Schmidt** is a first year Mechanical and Aerospace Engineering major. She is from Plymouth, Michigan, and enjoys writing stories, fencing, and all things Star Wars.

**Noah Taylor** is a first year Computer Science major. He is from Clarkston, Michigan and enjoys playing video games, doing video editing, and star gazing.

**Bella Vasoli** is a first year Human Biology pre-med student minoring in Spanish and pre-health professions. She is from Monticello, Minnesota and enjoys playing soccer for MTU, ice skating, and fishing.