

33rd annual
BEACON
CONFERENCE
BERGEN COMMUNITY COLLEGE

Conference for student scholars at two-year colleges
in the Mid-Atlantic region hosted by
Bergen Community College on June 6th, 2025.



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Beacon Conference for Students at Two-Year Institutions in the Mid-Atlantic Region

For the past 33 years, the **Beacon Conference** has served as an exemplary showcase for our exceptional students at twenty community colleges from around the Mid-Atlantic region. The conference is for Student Scholars at Two-Year Colleges and was established in 1993 to recognize, celebrate, and showcase the achievements of outstanding two-year college students in academic research and writing. Beacon is funded each year in part by the host college and from fellow coalition members and by the generous support of community sponsors.

Beacon 2025 is the fourth time (1998, 2008, & 2016) Bergen Community College has had the privilege of hosting this excellent conference. A conference of this size, with such an array of tasks, requires over a year of planning and the full commitment and cooperation of the entire community of faculty, staff, administrators, student leaders, and community representatives. This year's Beacon Co-Directors, Dr. Kelly Keane and Professor Seamus Gibbons, are extremely grateful to all those members of the groups mentioned for their enthusiasm, their commitment, and their precious time and resources.

We are grateful to the Honors faculty for their continuous commitment to their students and their unwavering mentoring of students year after year. 2025 produced a record number of submissions from Bergen (39), and we are delighted that the faculty made such a commitment to their students. Further, we would like to thank Tracy Miceli, Director of Community Affairs as well as Salimah Ali, Senior Secretary Honors/PTK.

We would also like to thank the following individuals for their continued support of this prestigious event: Dr. Jonathan Sponsler, Lehigh Carbon Community College; the entire Beacon Steering Committee, both those serving for many years and those who are just beginning their Beacon journey, for their support and dedication to Honors students; Sulgi Lim, Director of Admissions at Williams College, Williamstown MA - for her direction, her dedication, her energy, and her unwavering support; and to our judges from Dominican University, Felician University, Pace University, Ramapo College, St. Thomas Aquinas College, and Williams College

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Westchester Community College, Valhalla NY

Beacon 2025 Schedule
Technology Building, Paramus, NJ

8:00-8:45 am	Registration and Breakfast Buffet	TEC-128
8:45-9:00 am	Welcome Professor Seamus Gibbons, Co-Director Dr. Kelly Keane, Co-Director	TEC-128
9:00-10:30 am	Session I - Concurrent Panels	
	Literature	TEC-201
	Interdisciplinary Studies I	TEC-202
	Sociology	TEC-203
	Psychology I	TEC-204
	History I	TEC-205
10:30-10:45 am	Break	
10:45-12:15 pm	Session II Concurrent Panels	
	Biology	TEC-201
	Philosophy & Religion I	TEC-202
	Psychology II	TEC-203
	Environmental Studies	TEC-204
	Interdisciplinary Studies II	TEC-205
12:20 -1:30 pm	Lunch	
12:15 - 1:30 pm	Transfer Fair	TEC-128
1:30 - 3:00 pm	Session III - Concurrent Panels	
	Women's/Gender/LGBTQ+ Studies	TEC-201
	Philosophy & Religion II	TEC-202
	History II	TEC-203
	Communication & Media Studies	TEC-204
	Social Justice	TEC-205
3:00 - 4:00 pm	Poster Session, Transfer Fair, and Dessert Buffet	TEC-128
4:00 - 5:00 pm	Awards Ceremony	TEC-128

Session I
9:00-10:30 am

Literature
TEC 201

Sophia Kalinyak

The Intersection of Myth and Philosophy: Myth in Plato's Gorgias

Mentor - Dr. Michael Harding
Montgomery College

Parker Madsen

Outside Our Own: Literature and Breaking the Cultural Barrier

Mentor - Dr. James Werner
Westchester Community College

Hanieh Kachooee

Reimagining Irish Identity Beyond the Male Gaze

Mentor - Dr. Kelly Keane
Bergen Community College

Judge

Dr. Robert McParland
Felician University

Moderator

Professor Mark Altschuler
Bergen Community College

Readers

Dr. Cheryl Hogue Smith
Borough of Manhattan Community College

Dr. Stacey Balkan
Florida Atlantic University

Dr. Shamika A. Mitchell
Rockland Community College

Interdisciplinary Studies 1
TEC 202

Shenandoah DeNardo

Capoeira: A Symbol of Resistance and Identity

Mentor - Dr. Felipe Munoz
Lehigh Carbon Community College

Lila Wooden

Defying Containment: Unifying Themes from Dostoevsky and Gödel

Mentor - Dr. Zhou Dong
Montgomery College

Olivia Rungo

Implementing Ethics and Morality into the U.S. Schooling System

Mentor - Professor Randy Boone
Northampton Community College

Judge

Dr. Aaron R.S. Lorenz
Dean, School of Science and Human Services
Ramapo College

Moderator

Dr. Sarah Shurts
Bergen Community College

Readers

Professor Jodi Greene
Reading Area Community College

Dr. David Lucander
Rockland Community College
Dr. Helen O'Brien
Westchester Community College

Session I
9:00-10:30 am

Sociology
TEC 203

Dylan Rehm

Funding Academic Success in Low-Income Communities

Mentor - Professor Seamus Gibbons
 Bergen Community College

Magdiel Banire

The Parasocial Dilemma: Musicians, Fans, and the Search for Authenticity

Mentor - Professor Emily Holmstead
 Montgomery College

Jay Perelmuter

Ronald & Donald: Propaganda, Policy, Pandering, and More Parallels

Mentor - Dr. Alan Kaufman
 Bergen Community College

Judge

Dr. Kathleen Ray
 Ramapo College

Moderator

Professor Iris Bucchino
 Bergen Community College

Readers

Dr. Reba Subharwal
 Rockland Community College

Dr. Zachary V. Sunderman
 Westchester Community College
 Professor Richard J. Kovarovic
 Dutchess Community College

Psychology 1
TEC 204

Healley Saltz

Global Teratogens

Mentor - Dr. Katy L. DeLong
 Lehigh Carbon Community College

Francesco Maneri

Living in the Objectified Body: What the Work of Maurice Merleau-Ponty Can Offer in Analysis of Body Dysmorphic Disorder

Mentor - Dr. Laura Ochoa
 Bergen Community College

Catherine Park

The Intergenerational Transmission of Trauma Within Families

Mentor - Dr. Laura Ochoa
 Bergen Community College

Judge

Dr. Em Leskinen
 Ramapo College

Moderator

Dr. Daniel Salerno
 Bergen Community College

Readers

Professor Steven Marks
 Rockland Community College

Dr. Kathleen Ray
 Ramapo College
 Professor Michael Hall
 Dutchess Community College

Session I

9:00-10:30 am

History 1

TEC 205

Gabriel Oshman

The Reign of Terror and Revolutionary Continuity

Mentor - Dr. Alex d'Erizans

Borough of

Manhattan Community College

Carol Tapia

How Reagan's Administration Response to the

AIDS/HIV Epidemic Affect the LGBT Community

Mentor - Professor Jodi Greene

Reading Area Community College

Violet Ratliff

What Role did Religion Play in Marxist-Leninism?

Mentor - Dr. Sarah Shurts

Bergen Community College

Judge

Dr. Heath Bowen

Dean, School of Arts & Social Sciences

St. Thomas Aquinas College

Moderator

Dr. Kevin Olbrys

Bergen Community College

Readers

Professor Sharon Hallager

Dutchess Community College

Professor Diane M Hahn

Northampton Community College

Dr. Padhraig Higgins

Mercer County Community College

Session II
10:45 - 12:15 pm

Biology
TEC 201

Min Khant Oakker

The Effects of Mercury Poisoning on Brain Anatomy

Mentor - Dr. Lauren Goodwyn

Borough of Manhattan Community College

Natanim Ambaye

The Effect of Dysbiosis on Depression and Anxiety

Mentor - Dr. Kimberly George

Montgomery College

Diana Grover

Bug Bacteria: Environmental Unknowns

Mentor - Professor Nelson Chu

Lehigh Carbon Community College

Judge

Dr. Bianca Wentzell

Dean, School of STEM

St. Thomas Aquinas College

Moderator

Dr. Kathleen Williams

Bergen Community College

Readers

Dr. Mariana Melo

Dutchess Community College

Professor Jennifer Kurtz

Dutchess Community College

Professor Elyse Fuller

Rockland Community College

Philosophy & Religion I
TEC 202

Parker Madsen

Just War Theory and Rejection of the Pacifist Monolith

Mentor - Dr. Dwight Goodyear

Westchester Community College

Hosna Kachooee

The Roots of Welfare Perceptions: Exploring History, Ideology, and Media's Influences

Mentor - Professor Lisa Mayer

Bergen Community College

Rafael Castillo-Grynberg

Good Architecture Matters

Mentor - Professor David Carter

Montgomery College

Judge

Dr. Keith McPartland

Williams College

Moderator

Dr. Ilan Erlich

Bergen Community College

Readers

Dr. Leonard R. Winogora

Mercer County Community College

Dr. Kenneth Howarth

Mercer County Community College

Professor Samantha Dunn

Orange County Community College

Session II
10:45 - 12:15 pm

Psychology II
TEC 203

Elene Shengelia

Systematic Review: Disentangling Pediatric Bipolar Disorder and ADHD

Mentor - Professor Jamie Joseph

Borough of Manhattan Community College

Ivan Nolan Van

The Human Toll of Globalization: Navigating Stress and Coping Mechanisms

Mentor -

Professor Emily Holmstead

Montgomery College

Judge

Dr. David Chun

Dominican University

Moderator

Dr. Maria Kasparova

Bergen Community College

Readers

Professor Stacy Casden

Rockland Community College

Professor Sabrina Rieder

Rockland Community College

Professor Jenny Ji Eun Park

Dutchess Community College

Environmental Studies
TEC 204

Sumaiya Ali

The Chemistry Behind Climate Change

Mentor - Dr. Megan P Nolan

Rockland Community College

Hannah Woo

Guardians of the Earth: Mythical Archetypes and Environmental Awareness

Mentor - Dr. Nathan Zook

Montgomery College

Diego Fenstermaker

Determining Concentration of Iron in Alloy through Redox Titration

Mentor - Dr. Brad Prutzman

Lehigh Carbon Community College

Judge

Dr. Matthew Aiello-Lammens

Pace University

Moderator

Dr. Christine Eubank

Bergen Community College

Readers

Professor Robert Dill

Bergen Community College

Dr. Stacey Balkan

Florida Atlantic University

Dr. Laurel Robinson

Westchester Community College

Session II
10:45 - 12:15 pm

Interdisciplinary Studies II
TEC 205

Josianne Hegbe

The Darker the Berry, The Rottener the Fruit

Mentor - Professor Emily Holmstead

Montgomery College

Rowan Rybak

*Global Progress, American Failure: Rethinking
Maternal Care in America*

Mentor - Dr. Nathan Zook

Montgomery College

Vanessa Wood

*The American Education System's Perpetuation of
Generational Poverty*

Mentor - Professor Seamus Gibbons

Bergen Community College

Judge

Dr. Aaron R.S. Lorenz

Dean, School of Science and Human Services

Ramapo College

Moderator

Dr. Alan Kaufman

Bergen Community College

Readers

Dr. Mira Sakrajda

Westchester Community College

Dr. Brian Gatens

Superintendent, Leonia Schools

Dr. Thomas Gorman

Superintendent, Montville Schools

Session III
1:30 - 3:00 pm

Women's/Gender/LGBTQ+ Studies
TEC 201

Alice Frank

The Handmaid's Tale: Blurring the Lines Between Fiction and Reality

Mentor - Professor Jennifer Myskowski

Lehigh Carbon Community College

Tanvi Saindane

Popcorn and Patriarchy

Mentor - Professor Emily Holmstead

Montgomery College

Judge

Dr. Gregory C Mitchell

Williams College

Moderator

Dr. Mi Ahn

Bergen Community College

Readers

Dr. Reba Subharwal

Rockland Community College

Dr. Zachary V. Sunderman

Westchester Community College

Professor Richard J. Kovarovic

Dutchess Community College

Philosophy & Religion II
TEC 202

Celia Burns

Gorgias' Conception of Rhetoric

Mentor - Dr. Michael Harding

Montgomery College

Vincent Jericho Elope

The Evil Within: Moral Decay and "A Good Man is Hard to Find"

Mentor - Professor Mark Altschuler

Bergen Community College

Finnegan Beatty

The Infiltration of White Christian Nationalism in American Democracy

Mentor - Dr. Christine Bowditch

Lehigh Carbon Community College

Judge

Dr. Keith McPartland

Williams College

Moderator

Professor Eileen Fitzgerald

Bergen Community College

Readers

Dr. Christopher L. Costello

Reading Area Community College

Dr. Kenneth Howarth

Mercer County Community College

Dr. Kevin Cavanaugh

Dutchess Community College

Session III
1:30 - 3:00 pm

History II
TEC 203

Katina Scheponik

Women: Influential Roles They Had in the 19th Century Reform Movements

Mentor - Professor Jodi Greene

Reading Area Community College

Francesco Maneri

Divided Inside: Examining the Failings of Nationalism Before & After the Unification of Italy

Mentor - Dr. Sarah Shurts

Bergen Community College

Shloimy Goldberger

Two Sides of the Same Coin: The Shared Struggles of Black and Global Liberation

Mentor - Dr. David Lucander

Rockland Community College

Judge

Dr. Magnús T. Bernhardsson
Williams College

Moderator

Dr. Leigh Jonaitis
Bergen Community College

Readers

Professor Shalon Hallager
Dutchess Community College

Professor Diane M Hahn
Northampton Community College

Dr. Padhraig Higgins
Mercer County Community College

Communication & Media Studies
TEC 204

Zlatin Georgiev Ivanov

The Male Gaze and Feminine Stereotypes in Cinema

Mentor - Professor Alwyn Haywood

Mercer County Community College

Lindsay MacDonald

Can You Guess What Every Woman's Worst Nightmare Is?

Mentor - Dr. Ellen Kreger

Westchester Community College

Ariel Nicholson Murtagh

Auteur Theory and the Essence of Authorship: A Literature Review

Mentor - Dr. Meghan P. Nolan

Rockland Community College

Judge

Dr. Satarupa Dasgupta
Ramapo College

Moderator

Dr. Maria Makowiecka
Bergen Community College

Readers

Dr. Kathleen Williams
Bergen Community College

Dr. Diane Conrad
Reading Area Community College

Professor Diane Hahn
Northampton Community College

Session III
1:30 - 3:00 pm

Social Justice
TEC 205

Catherine Park

*Poverty and Institutional Neglect in the Asian
American Diaspora*

Mentor - Professor Lisa Mayer

Bergen Community College

Crystal Tran

*Effects of Anti-consumerism on Consumer Relationship
with Fast Fashion*

Mentor - Professor Emily Holmstead

Montgomery College

Hanieh Kachooee

The Feminization of Poverty in Iran

Mentor - Professor Lisa Mayer

Bergen Community College

Judge

Dr. Helen O'Brien
Westchester Community College

Moderator

Professor Iris Bucchino
Bergen Community College

Readers

Professor Jodi Greene
Reading Area Community College

Professor Christine Anderson
Reading Area Community College
Dr. George Ketuku
Westchester Community College

Poster Session Participants
3:00 - 4:00 pm
TEC 128

Biology

Kateryna Maksymenko *Electrochemical Biosensors on Early Detection of Alzheimer's Disease*

Mentor - Dr. Ryan Fealy
 Bucks Community College

Chemistry

Madeleine Soenens *The Effects of the Stress Response on Cancer Progression*

Mentor - Professor Kathryn Monzo
 Montgomery College

Environmental Studies

Erin Halpin *Six Sunscreen Samples: Capabilities on Blocking Visible Light*

Mentor - Dr. Brad Prutzman
 Lehigh Carbon Community College

Interdisciplinary I

Annabelle Best *We Need a Remedy, Not a Band-Aid*

Mentor - Dr. Ilan Erlich
 Bergen Community College

Interdisciplinary II

Roselyn Salmeron Ventura *Japan's Architectural Resistance*

Mentor - Dr. Nathan Zook
 Montgomery College

Literature

Maximillian J. Venskus *The Goddess Inanna and Transformation*

Mentor - Dr. Maria H. Makowiecka
 Bergen Community College

Philosophy

Finnegan Beatty *The Infiltration of White Christian Nationalism in American Democracy*

Mentor - Dr. Christine Bowditch
 Lehigh Carbon Community College

Psychology

Anabella DelDuco *Echoes of Ego: The Age Digital Narcissism*

Mentor - Dr. Elise Martucci
 Westchester Community College

Social Justice

Andi Ahrens *Protection at What Cost?: A Review of the Relationship Between Nuisance Property Ordinances and the Effective Criminalization of Domestic Violence Victims*

Mentor - Dr. Christine Bowditch
 Lehigh Carbon Community College

Sociology

Ihsan Yuce *Regarding Poverty and Housing*

Mentor - Professor Seamus Gibbons
 Bergen Community College

Women's/Gender/LGBTQ Studies

Ridmi Madarasinghe *End the Stigma: The Need for Comprehensive Menstrual Education for All*

Mentor - Professor Emily Holmstead
 Montgomery College

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2017	Orange County Community College, Middletown, NY
2018	Montgomery College, Germantown, MD
2019	Lehigh Carbon Community College, Schnecksville, PA
2020	Lehigh Carbon Community College, Schnecksville, PA (Canceled due to Covid)
2021	Westchester Community College, Valhalla, NY
2022	Orange County Community College, Middletown, NY
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2025	Bergen Community College, Paramus, NJ

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OUTSTANDING PAPERS Disclaimer:

In the compilation of this Proceedings publication, every effort was made to maintain the formatting for each winning paper as close to the original paper as possible. Some slight alignment differences may be evident, but papers should be nearly identical to what was submitted to the 2025 Beacon Conference. No corrections have been made to the content of the papers.

Literature

Sophia Kalinyak

Montgomery College

Mentor: Dr. Michael Harding

Title: “The Intersection of Myth and Philosophy: Myth in Plato’s *Gorgias*”

Judge’s comments: The contemporary relevance of “myth” and narrative, metaphor, and symbol within a culture inclined toward empirical science and further development of our techno sphere was articulately addressed in Sophia’s inquiry into Plato’s text and his use of the Dialogues. Sophia’s paper made a convincing case for the humanistic integration of reason and myth and imagination and the challenge of an invitation to literature's mode of revealing “soul” and “truth” in our lives.

Dr. Robert McParland

The Intersection of Myth and Philosophy: Myth in Plato's *Gorgias*

In several of Plato's dialogues, critiques and doubts surround the employment of myths and their purpose and significance. With the rise of philosophical inquiry emphasizing rational thought and the use of empirical, scientific evidence to prove our beliefs, myths seem to have no purpose or significance in either scientific understanding or philosophical rigor as they are concerned with the fanciful. Nevertheless, contrary to what many might assume, in philosophy, myths take on a new life, serving a significant purpose. In philosophical dialogues, myths serve as vessels to explore complex ideas, convey philosophical truths, and address the limitations of philosophy. With these purposes in mind, Plato's Socrates creates and utilizes various myths throughout many of Plato's works, including *The Republic*, *Phaedrus*, *Timaean*, and *Gorgias*, which have been collectively termed "The Platonic Myths."^[1] Particularly, in Plato's *Gorgias*, Socrates's myth about the afterlife is utilized to underline his arguments about rhetoric, justice, and truth. However, there is discourse around this myth's exact role and efficacy, as some argue that it obscures deeper philosophical points, while others believe it enriches the discussion. Ultimately, it is through examining Socrates's myth about the afterlife found at the end of Plato's *Gorgias* and the critiques of its interpretation that one can understand the significance of the myth as it is essential for understanding Socrates's philosophical views, bridges the gap between philosophical argumentation and practical understanding, exemplifies Socrates's points on ethical rhetoric, and encourages intellectual curiosity.

Before delving into an examination of the purpose and significance of the myth in the *Gorgias*, it is first essential to understand a brief overview of the text and myth. In the *Gorgias*, Plato's Socrates engages in 'dialectic,' which is a method of questioning aimed at uncovering underlying beliefs and examining them in search of truth, with a famous rhetorician named Gorgias, his pupil Polus, and Callicles, a politician and fellow Athenian. During this conversation, Socrates challenges and

dismantles Gorgias's and Polus's support and beliefs regarding the practice, purpose, and consequences of 'rhetoric,' a persuasive speech often used to sway an audience without regard for truth. However, as Socrates delves deeper into their arguments, the conversation naturally transforms from one of rhetoric to an examination of the nature and value of justice, virtue, and truth. With this shift, Calicles is emboldened to defend his more cynical views on power and morality, which leads to an intense and revealing debate. Eventually, Calicles, exasperated by Socrates's refutations, requests an end to the conversation, prompting Socrates's final speech in the form of a myth.

In this myth, Socrates discusses the afterlife, judgment, and fate of the soul, which is based on the acts of justice and virtue committed in an individual's life. He delves into the evolution of this judgment from the Age of Kronos, which is characterized by corruption and manipulation as souls were judged based on their appearances and status, to the Age of Zeus, where souls are judged based on their moral character separate from their body and status. Eventually, he ends the myth by reiterating the importance of living a just and virtuous life by avoiding acts of injustice, being disciplined through "seeking a just penalty"^[2], and performing every act, including rhetoric, as a means to what is just. With this myth, Socrates concludes the dialogue and begins a long-lasting discourse among scholars about the philosophical implications and significance of the myth.

Although only making up a small portion of the dialogue starting at 523A and ending at 527E, Socrates's myth about the afterlife at the end of the *Gorgias* and Plato's use of mythology, in general, have been disregarded by scholars who scrutinized it as an act of treason against philosophy. This belief comes from a stance of philosophical purism, meaning philosophical inquiry should remain pure of imaginative, supernatural, or narrative elements. In writing on the myth of the *Gorgias* in "Imitating the Myth in the *Gorgias*," author Alverio blames the Enlightenment Age of the 17th and 18th centuries for the dismissal of the myth of the *Gorgias*. He states, "In an attempt to ridicule

religion, the Enlightenment relegated the myths to absurdity, and the analysis of myths was considered unscholarly but also unfashionable.”^[3] Furthermore, with the advancements of the 19th and 20th centuries, myths became labeled as “primitive and pre-scientific.”^[4] Because of this, a chasm was created separating logos (logic or reason) and mythos (story or fiction), causing myths in philosophical works like the one in the *Gorgias* to be disregarded and isolated from logical argumentation.

The reasoning for the critiques of myths can be summed up in the belief that myths distract or undermine logical argumentation as they derive truth from the unreal. Additionally, the inherent vagueness of myths leaves room for misinterpretation, which counteracts philosophy’s pursuit of clear and rational truth. For the *Gorgias* specifically, critics believe that introducing narrative elements about the afterlife in Socrates’s final speech diverts attention away from the logical search for truth showcased throughout the dialogue. Socrates himself seems to recognize this stance as he states during his final speech, “Now this seems to you to be a myth, like something told by an old woman, and you look down on it...”^[5] In the book *A History of Greek Philosophy*, author Guthrie agrees with Socrates’s insertion and adds his take on myth in philosophy, stating that “The unconscious retention of inherited and irrational modes of thought, cloaked in the vocabulary of reason... becomes an obstacle, rather than an aid, to the pursuit of truth”.^[6] In simpler terms, Guthrie states that by dressing up irrational beliefs in the guise of logical reasoning, myths may be misleading and counterproductive. Furthermore, this may perpetuate unfounded ideas and beliefs rather than fostering genuine philosophical inquiry based on reason and evidence. Therefore, such an approach may be an obstacle to true philosophical progress. Additionally, the timing of this myth at the end of the dialogue seems to support this critique. By placing a narrative element at the end of a thorough, logical discussion, the myth appears to be a hastily contrived afterthought. In the end, these concerns are a few of the reasons why many believe that the inclusion of the myth may regress the

purpose of the *Gorgias* and philosophy by mixing subjective and less rigorously analytical elements with rational arguments. Because of this, many scholars either reject the use of the myth in the *Gorgias* or ignore its significance entirely.

Although these criticisms have some validity, it is through a thorough examination of the myth in the *Gorgias* that it becomes clear these concerns are formed from an overly simplistic view of Platonic myths and their purpose, which fail to appreciate the deeper philosophical insights and pedagogical strategies employed. Before delving into the purpose and significance of the myth, it is essential to differentiate between standard and philosophical myths. Typically, myths are fantastic tales about supernatural events used to explain the unknown or teach moral lessons, reflecting the beliefs and values of the culture they originate from. However, in philosophy, myths are deployed as narratives that explore, reinforce, or convey philosophical beliefs. While this may appear similar to a traditional myth, its primary goal is conveying philosophical truths rather than explaining natural phenomena or supernatural ideas. In the *Gorgias*, this concept is highlighted when Socrates introduces his speech, stating, “Then listen to an ever so beautiful speech. You’ll consider it a myth, I imagine, but I consider it a speech because I’ll be telling what I am about to say as something as true.”^[7] In other words, Socrates underscores that he is not deploying the myth as simply an entertaining story but as a means to communicate profound philosophical truths that engage the audience’s imagination. By presenting the myth as a “true”^[8] speech, Socrates emphasizes the philosophical truth of the message rather than the literal truth of the narrative about the afterlife.

In “Imitating the Myth in the *Gorgias*,” author Alverio adds insight into this distinction, stating that while modern philosophy seeks to dismiss the unity of mythos (myth) and logos (logic), the two are successfully and purposely unified in the *Gorgias* as the myth is used to convey philosophical truths. To this idea, Alverio defines *philosophical myths* as “reality as explained by analogy with the unreal,” with a close relation to *historia*, a narrative history or tale of the past.^[9] In other words, myths are

inherently intertwined with history as they use the structure of past events or narratives to explain philosophical concepts. Therefore, with this unity of mythos, logos, and historia, Socrates provides a more holistic method of communicating philosophical truths rather than presenting the narrative about the afterlife as a purely historical account or truthful tale. Ultimately, making this distinction is crucial as it sets the tone for a deeper understanding and appreciation of this myth.

With the understanding that philosophical myths are intended to serve as a narrative framework to convey philosophical truths, it becomes apparent through the reevaluation of the myth in the *Gorgias* that it clearly illustrates and summarizes Socrates's specific views of justice, truth, and virtue. To illustrate and convey Socrates's view of justice, the myth delves into the Greek's beliefs about judgment in the afterlife. By retelling the evolution of judgment from the age of Kronos to Zeus, Socrates highlights that judgment in his present day is based on the moral actions taken by individuals during their lives. This is because souls are judged without their bodies; therefore, "Everything in the soul is made plainly visible when it is made naked...the things that belong to its nature and the experiences the human being had in his soul as a result of his pursuit of every activity".^[10] In other words, the true appearance of each soul is revealed, free from the disguises of the material world. This is important in Socrates's broader argument of justice as it highlights Socrates's belief in the value of possessing moral integrity rather than material wealth and status as it leads to a better existence. This point is further emphasized when Socrates describes the unhealed damages that hypocrisy and injustice leave on the soul, which dictate the severity of the soul's punishment. In the context of the text, this reiterates the transformative power of seeking a just punishment as it purifies the soul of the marks of corruption. Ultimately, this illustrates Socrates's larger belief that it is better to suffer injustice than to commit it, as enduring injustice preserves one's moral integrity while committing injustice corrupts the individual. With this, Socrates's main

arguments regarding justice and judgment and the implications of both are reiterated and explained in the myth.

In addition to speaking about justice, the myth in the *Gorgias* also functions to highlight Socrates's belief that truth and virtue are the greatest good and are the foundation of a just and fulfilling life. As mentioned, the myth demonstrates how, in the afterlife, the true nature of each soul is uncovered. Therefore, because this judgment in the afterlife is based on an objective evaluation of one's actions, the myth highlights that truth and virtue are not subjective but are enduring aspects of reality. Consequently, this demonstrates Socrates's argument on how true happiness and fulfillment come from living a truthful, virtuous life. This is because virtue and truth lead to a more enduring form of happiness as it is a stable and constant aspect of the soul, unlike external goods or pleasures, which are fleeting and left behind during judgment. Therefore, this highlights Socrates's argument that by living by virtue and truth, individuals align themselves with the greatest good, which leads to true, lasting happiness. As Socrates states, "So let's take as a guide the speech that has now made its appearance in our presence, which indicates to us that this way of life is best, to live and come to death training ourselves in justice and the rest of virtues."^[11] Ultimately, these points that have been simply expressed through this narrative are significant points of contention throughout the dialogue. Because of this, the myth is not a mere embellishment or based on the irrational but serves a crucial purpose in illustrating Socrates's philosophies.

When contemplating the deeper meaning of this myth to showcase its significance in conveying philosophical truths, Alessandra Fussi's article, "The Myth of the Last Judgment in the *Gorgias*," adds an additional layer to this understanding. According to Fussi, Plato's myth about the afterlife is significant because it serves as a metaphor for Socrates's unexpected arrival and refutation of Gorgias.^[12] More specifically, she emphasizes Socrates's point that because individuals are "stopped from knowing their death ahead of time,"^[13] they cannot prepare superficial defenses and, therefore,

should prepare their souls for the unexpected arrival of death through continuous self-examination. This is contradictory to the former judgment of souls in which people could prepare for their souls to be judged based on appearances and status rather than actual virtue. With this understanding, Fussi points out that Socrates, like death and the judgment of the soul in the age of Zeus, arrives unannounced and challenges the superficial judgments of his interlocutors. Furthermore, it showcases that those like Callicles are still trapped in the age of Kronos as their practices and beliefs are “prey to appearances”^[14] and focus on social status rather than truth and virtue. This is apparent as Callicles’s views on justice and pleasure reflect his dependency and desire for external validation and his rejection of truth’s value. With this comparison, Fussi illustrates that Socrates’s unexpected questioning serves as a wake-up call, much like the suddenness of death and its judgments. With this metaphor in place, the myth reinforces the philosophical themes of the dialogue and emphasizes the importance of truth and moral integrity over appearances and social status. Ultimately, these insights emphasize how the myth in the *Gorgias* seeks to deepen our understanding of the ideas established and defended by the dialogue.

Although the purpose of this myth is more apparent, it still begs the question of why Plato’s Socrates felt the need to reinforce these ideas after already defending his stance with logos and dialectics. He reinforces these ideas because not every man is a philosopher and, therefore, requires additional assistance for a comprehensive understanding. More specifically, individuals are more often influenced by narratives and emotional engagement than abstract argumentation. Hence, despite Socrates providing both Callicles and the reader with logical reasoning as to why truth and justice are the greatest good, this logic alone may not move them toward change. Because of this understanding, Socrates uses the myth to reinforce and illustrate these concepts in a manner that helps bridge the gap between philosophical argumentation and practical understanding. This helps ensure that the core messages about justice, truth, and virtue are more widely appreciated. This idea

is highlighted in the final sentence of Socrates's myth when he states, "Let's follow this way, and exhort others to it, not that way you put your trust in and exhort me to because it's not worth anything, Callicles."^[15] This call to action following the myth emphasizes the fact that it serves as a facilitator to guide individuals towards practical action and change as it underscores the importance of integrating philosophical truths into one's life. Ultimately, humans are not entirely rational creatures, as emotions heavily influence our decisions and beliefs. Because of this, a philosopher cannot rely on purely rational argumentation if they wish to create practical change. Therefore, they must deploy devices like Socrates's myth to impact people's broader beliefs and actions.

With the understanding that there exists a gap between rational thought and emotional engagement, in the article "The Function of the Myth in Plato's Philosophy," scholar Ludwig Edelstein offers additional insight into why and how the myth bridges this gap. Edelstein argues that our human reasoning is limited and, therefore, "...can grasp only that which always is and never changes; it can grasp only the eternal forms or ideas."^[16] Thus, if the philosopher wishes to express concepts or ideas beyond "immediate sensory experience,"^[17] they must use narratives and myths. Essentially, Edelstein states that the myth in the *Gorgias* serves as a facilitator in moving an individual from opinion to knowledge. Edelstein makes it clear that no matter the myths Plato employs in his dialogues, dialectics, and truth are always central to these tales. Despite Socrates's use of logic, man's reason may be convinced by an argument presented once. Still, their emotions take more time, meaning the philosopher may need to tend to this part of the soul to cultivate virtue and a fear of the unjust. Because of this, when the myth about the afterlife is deployed at the end of the dialogue, it is not there because Socrates failed to use logical reasoning to convince Callicles; instead, it fosters a more profound and enduring understanding of the truths presented, leading to practical action.

In the end, this idea that emotions or passions must be engaged for more comprehensive understanding is not only exemplified in the myth about the afterlife itself but in Plato's works as a

whole. On a broader scale, the narrative structures of Plato's dialogues provide the necessary context to understand the arguments made and serve as a device for engaging audiences, making often complex and abstract philosophical truths more accessible. Without such narratives, the arguments presented by Socrates would fail to move many individuals toward reflection, practical action, and change. In turn, these dialogues would lose their profound effect on society, education, and philosophical discourse today. Therefore, what makes the myth presented at the end of the *Gorgias* much different? Although its narrative is more fanciful and based on religious teachings, it serves the same purpose, exemplifying and illustrating truths uncovered through logical reasoning. With this, the myth effectively bridges the gap between rational argument and emotional engagement, ensuring that the philosophical teachings about justice, truth, and virtue are clearly understood.

Ultimately, in addition to fostering engagement and bringing greater clarity to the text, the myth is a crucial conclusion to the dialogue as it exemplifies Socrates's argument on how rhetoric should be employed. Specifically, it showcases the importance of rhetoric's subservience to truth through means such as philosophy. After relating his myth about the afterlife, Socrates reiterates this stance and view of rhetoric, stating:

“...this speech alone stands undisputed...that every sort of pandering ought to be avoided, with regard to oneself or others, with regard to a few people or a large number; and that the way one ought to make use of rhetoric, and every other activity, is always toward the end of what is just.”^[18]

Through this quote, Socrates condemns the use of pandering and advocates for rhetoric in service of truth. As mentioned, the dialogue's focus on the nature of justice, good, and truth is driven by Socrates's questions and disdain for rhetoric. Specifically, Socrates compares rhetoric to pastry baking, suggesting it is more about pleasing and persuading people, preying on ignorance rather than seeking the truth. However, with the myth, which Socrates had previously criticized the use of in

sophistry, he employs a rhetorical device to appeal to the audience. While this may seem contradictory, it underscores the appropriate and ethical use of rhetoric: not to deceive or manipulate but to engage the individual in the pursuit of truth and virtue. With this, Socrates demonstrates how a rhetorician should act and how rhetoric can be employed ethically. The myth Socrates relays does not manipulate emotions for personal but instead guides individuals toward a deeper understanding and commitment to truth and virtue.

Despite the ethical use of the myth, many scholars find it controversial or even problematic that Socrates uses rhetoric as it may lead to accusations of hypocrisy or inconsistency. However, scholar Gabriela Carone, author of “Socratic Rhetoric in the ‘*Gorgias*,’” provides additional insight into the role of rhetoric in Socratic dialogue. Carone emphasizes that Socrates’s use of the myth is not a departure from his philosophical principles but a strategic tool to show that “he conceives of rhetoric in general as a means which...may be given a good purpose, and thus become a genuine craft(techne)”.^[19] More simply, Crone argues that the use of “Socratic rhetoric”^[20] in the *Gorgias* does not contradict or threaten his previous stance on rhetoric but showcases the necessary steps and considerations that must be taken to use rhetoric ethically. Because of this, Socrates’s strategic use of rhetoric through the myth illustrates how rhetoric can be harnessed to further truth and virtue rather than deceive or manipulate. Additionally, this myth showcases Socrates’s point that rhetoric is merely a knack as, on its own, it is a superficial skill focused on persuasion without a foundation in genuine knowledge. With this, the broader purpose and significance of this myth becomes clear. Without this piece, the dialogue would lack the illustrative power needed to properly convey the application of Socrates’s philosophical arguments about rhetoric.

Finally, in addition to these functions, the myth at the end of the *Gorgias* holds invaluable significance as it allows Plato to maintain a degree of interpretative flexibility in his work. By including this seemingly out-of-place narrative that is not initially clear in purpose or even relevance,

Plato creates elusiveness, frustrating audiences while giving them the best tool for a deeper engagement with the text: confusion.

Confusion is the catalyst for intellectual curiosity as it promotes inquiry and critical thinking. To understand the importance and application of this statement, one must remember three things. First, Plato's Socrates does not confuse the audience on the reasoning behind his beliefs on rhetoric, truth, and justice, as these are clearly articulated and explicitly stated. Second, there is no ambiguity in the philosophical arguments of the dialogue, as Gorgias, Polus, and Callicles rigorously refute Socrates, and therefore, significant flaws or confusion in his argumentation would have been addressed. Third, Plato was a meticulous and detailed writer. This is evident as his works have stood the test of time, not only remaining relevant but also being rigorously and extensively analyzed in scholarly literature for their philosophical depth and literary quality. Because of this, why would such a meticulous and brilliant man seem to overlook the fact that although there are functions to the myth, its purpose and significance confuses many readers? The answer is simple: that was his aim. This confusion is not a flaw of the argumentation but rather a deliberate strategy to engage the reader more profoundly. While the myth engages greater practical understanding for the non-philosopher, as mentioned previously, it also engages both the non-philosopher and the scholar to delve deeper into their interpretations by questioning and exploring the text in search of its underlying meanings and implications. In speaking about Plato's ambiguity throughout his works, Christopher Rowe, author of "Methodologies for Reading Plato," adds his perspective, stating:

"Ambiguities of this sort are common enough in Plato for him to become a hunting ground for hidden meanings: deprived as we are of an unambiguous message, advertised on the surface of the text, it is natural enough for interpreters to go searching beneath it and find treasures there, the signs to which have been missed by less careful readers." ^[21]

Through this ambiguity and confusion, Plato directly engages the reader to ponder various interpretations and arrive at their own philosophical conclusions regarding the purpose and implications of the myth and its symbolism. Therefore, while these meanings are “missed by less careful readers,” confusion and ambiguity set observant and curious readers on their intellectual journeys. These journeys toward knowledge and truth foster not only a deeper understanding of the myth but also the broader implications of truth and justice on the health of the soul. Like anything, the effort one puts into understanding is proportional to the wisdom one gets from it. Therefore, this process of overcoming confusion and uncertainty fosters a more meaningful understanding of philosophical ideas. Ultimately, this approach helps prevent the stagnation of ideas, allowing for continuous insights and interpretations to emerge. By balancing philosophical rigor with interpretative flexibility, the myth in the *Gorgias* exemplifies how myths can enhance understanding and foster more profound engagement with philosophical ideas.

In the end, the myth in Plato’s *Gorgias* holds profound purpose and significance as it fosters a deeper understanding of the philosophical truths laid out by Socrates. In illustrating Socrates’s views on the importance of justice, truth, and virtue in a narrative structure, the gap between philosophical argumentation and true, practical understanding is bridged. This allows even non-philosophers to appreciate these concepts and strive to live by them, which is the intended purpose of Socrates’s teachings. Furthermore, the myth demonstrates how rhetoric must be employed ethically, not to pander but to guide individuals toward truth. In understanding the purpose and significance of this myth, it becomes clear that to learn and evolve in one’s understanding, one should delve deeper into the nuanced meanings and interpretations of texts, both philosophical and otherwise. Not only does this lead to greater personal growth, but on a broader scale, it promotes a culture of free thinking and intellectual curiosity, which are essential for advancing knowledge and developing an enlightened society. Rather than disregarding aspects of Plato’s texts that cause confusion or seem

out of place, one should embrace the uncertainty that has been so strategically woven into these works. By jumping into this curiosity, readers are forever changed as their minds are opened to the importance of looking for new perspectives and deeper understanding. Ultimately, through embracing this approach, we honor the true spirit of Socratic philosophy and its enduring quest for truth and virtue.

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Interdisciplinary 1

Lila Wooden

Montgomery College

Mentor: Dr. Zhou Dong

Title: “*Defying Containment: Unifying Themes from Dostoevsky and Gödel*”

Judge’s comments: Lila is a philosopher, not unlike Dostoevsky and Gödel. Lila’s work is akin to a seasoned philosophy professor yet one who values contributions from mathematicians like Gödel. The best papers are those that teach and invoke questions and that is what Lila has done here. Simply put, this paper is amazing.

Dr. Aaron Lorenz

Defying Containment: Unifying Themes from Dostoevsky and Gödel

In Fyodor Dostoevsky's 1864 novella *Notes from Underground*, the narrator (unnamed but generally referred to as 'the Underground Man') rails against the idea that humans will ever behave rationally. History does not look particularly rational, he argues, and life would be dreadfully boring if everything could be "calculated and tabulated" in such a way that people could only act according to their "real normal interests" (Dostoevsky 15, 19). Besides, the Underground Man continues, any calculation of advantage based solely upon material concerns misses the most "advantageous advantage" (Dostoevsky 17) of all, that is, the advantage of the ability to choose between the advantageous thing or something outrageous instead:

"...out of sheer ingratitude, sheer spite, man^[1] would play you some nasty trick. He would even risk his cakes and desire the most fatal rubbish, the most uneconomical absurdity, simply to introduce into all this positive good sense his fatal fantastic element. It is just his fantastic dreams, his vulgar folly that he will desire to retain, simply in order to prove to himself—as though that were so necessary—that men are still men and not the keys of a piano^[2], which the laws of nature threaten to control so completely that soon one will be able to desire nothing but by the calendar" (Dostoevsky 24).

The inspiration for this diatribe was Nikolay Chernyshevsky's *What is to be Done?* (Barstow, Scanlan), a novel about a logical utopia of 'rational egoists.' Rational egoism is a school of thought in which whatever is best for an individual is also best overall, and those who behave according to a rational assessment of their own interest naturally behave nobly and altruistically because that is what will benefit them the most (Scanlan). Thus, Chernyshevsky's utopia is a place where every

action can be calculated according to one's best interest, and it is impossible to desire anything unreasonable (Barstow, Scanlan). Barstow claims that "Dostoevsky was so enraged by the simplistic solutions to complex social and human problems this work preached, that instead of writing a literary review, he delivered a 'bitter artistic response'" (Barstow).

I did not know when I first read *Notes from Underground* that it was a response to anything in particular—I simply liked the contrast of the despicable narrator (the book begins with the narrator explaining all of the ways in which he is despicable, see Dostoevsky 1-3) and the elegant way in which he presents his argument, as well as the contrast between the reasonable argument and its subject: that humanity will never be reasonable.

Each time the Underground Man concedes that some of human nature could be calculated, he introduces the "fatal fantastic element" that is the innate willfulness of humanity. The emphasis on calculation continues throughout, possibly to highlight the absurdity of expecting humans to consistently behave in an orderly manner: "... even if a man really were nothing but a piano key, even if this were proved to him by natural science and mathematics, even then he would not become reasonable..." (Dostoevsky 24). Without the ability to control for obstinateness as the final rogue variable, it seems, one can never create a rational utopia: all the advantages of humanity could be accounted for, but this one most "advantageous advantage" would always remain one step ahead of the calculation, uncontrollable despite its predictability: "If you say that all this, too, can be calculated... man would purposely go mad in order to be rid of reason and gain his point!" (Dostoevsky 24).

With his continuous references to mathematics as an area of absolute certainty, it may have pleased the Underground Man to know that 67 years after he was written into existence by Dostoevsky, it would be proven that even mathematics cannot provide absolute certainty: mathematical systems will always be either inconsistent or incomplete. Math, like human nature as described by the Underground Man, contains a “fatal fantastic element” that cannot be avoided by being anticipated.

This was demonstrated by Kurt Gödel with his incompleteness theorems, published in 1931 (Dawson, Doxiadis and Papadimitriou, Zach). Gödel’s first incompleteness theorem showed that any axiomatic mathematical system sophisticated enough to perform basic arithmetic would be able to make mathematical statements that could be neither proven nor disproven within the system (Dawson, Zach). Gödel’s second incompleteness theorem showed that an axiomatic mathematical system can never prove itself to be consistent (Dawson, Zach). These discoveries came as a shock to the mathematics community, which was hard at work trying to create a foundation for mathematics that would allow for every mathematical statement to be proven either true or false. (Dawson, Doxiadis and Papadimitriou, Zach).

In the early 1900s, mathematician David Hilbert set out to ground all of mathematics firmly in a set of axioms (Morris, Zach). The goal was to establish a mathematical system that never contradicted itself, where every mathematical statement that could be made from the parts of the system could be proven true or false using only other elements of the system (Morris, Zach). Drawing upon his understanding of algebra and geometry, Hilbert created a list of requirements that an ideal set of axioms ought to fulfill (Morris, Zach). According to Hilbert, an axiomatic system must be consistent: it should not be possible to prove both a statement and its negation. An

axiomatic system should be complete: capable of either proving or disproving any theorem that rests upon the axioms. The axioms should also be independent, that is, not superfluous or repetitive: the removal of an axiom should render the system incomplete (Morris, Zach). Hilbert succeeded in devising a set of axioms but ran into difficulties when he tried to prove their consistency without relying on another theory (Zach). For his system to be airtight, it would need to be able to prove itself, which resulted in circular arguments. One result of Gödel's second incompleteness theorem was to prove that this requirement can never be met (Morris, Zach).

Bertrand Russell, a contemporary of Hilbert's, was also working on the foundation of mathematics (Doxiadis and Papadimitriou, Irvine). His approach was to ground mathematics in logic using set theory (Doxiadis and Papadimitriou). Set theory may be defined as the study of groups or sets of things that go together (Bagaria, Doxiadis and Papadimitriou, Irvine). Thus, one may have a set of plates, a set of bowls, and a set of cups, and these sets may each be a member or *element* of a set of dishes. In set theory, Russell ran straight into a paradox when he considered the set of all sets that do not contain themselves (Bagaria, Doxiadis and Papadimitriou, Irvine). If the set of all sets that do not contain themselves does not contain itself, it becomes a member of the set of all sets that do not contain themselves (Bagaria, Doxiadis and Papadimitriou, Irvine). Then, by being a member of the set of all sets that do not contain themselves, it is automatically disqualified from being a member of the set of all sets that do not contain themselves (Bagaria, Doxiadis and Papadimitriou, Irvine). Therefore, the set is a member of itself if and only if it is not a member of itself (Doxiadis and Papadimitriou). This particular contradiction was resolved by expanding the axioms of set theory, but it exposed the issue of self-reference that would later form the heart of Gödel's theorems (Bagaria, Doxiadis and Papadimitriou, Irvine).

To investigate the completeness of mathematical systems, Gödel created an elementary set of axioms and devised a way to assign unique numbers to mathematical statements created from the axioms (Dawson). This mathematical language allowed him to make mathematics talk about itself in a much more sophisticated way than Russell's self-referential sets. By encoding mathematical statements in this way, Gödel translated two statements into numeric code: "*This statement is unprovable,*" and "*the axioms of this theory do not contradict each other*" (Dawson). Expressing these statements as theorems in numeric code allowed him to check their provability and definitively determine that neither could be proven. These two statements are the basis of Gödel's first and second incompleteness theorems, respectively (Dawson).

Gödel's incompleteness theorems destroyed any hope of achieving the goal of mathematical perfection by showing that in mathematics, there will always be true statements that cannot be proven, and changing the rules to allow unprovable statements to be proven will simply result in more unprovable statements stemming from the new rules (Dawson, Doxiadis and Papadimitriou, Morris). Like the Underground Man's "most advantageous advantage" that resists being quantified in idealized models of human nature (Barstow, Dostoyevsky 17), Gödel's unprovable mathematical statements crop right back up even after attempting to account for them by changing the rules (Dawson, Morris). Where the Underground Man claims that attempting to rationalize human behavior would encourage irrational behavior simply for the sake of rebellion (Dostoyevsky 24), Gödel's proofs show that attempting to avoid unprovable statements by adding more axioms results in new and different unprovable statements (Dawson). Perfect self-contained systems, it seems, are an unreachable goal in both human social systems (Barstow, Dostoyevsky, Scanlan) and

mathematics (Dawson, Morris). In either case, humanity and mathematics break free from their confines, humanity by being unreasonable and mathematics by being perfectly reasonable.

Though the Underground Man's angry rant and Gödel's incompleteness theorems both respond to proposals for idealized rational systems, the method and spirit of attack is different for each. The Underground Man seems intent on 'gaining his point' and exposing Chernyshevsky's literary logical utopia as absurd (Barstow, Dostoyevsky). His argument is thorough but expressive and emotional, filled with imagery and anecdotes (Dostoyevsky 16-25). It seems that in his mind he accepts that Chernyshevsky's utopia is theoretically a lovely idea, but in his heart, he knows that it is incompatible with the reality of human nature, so he calls upon his listeners to remove their idealistic heads from the clouds and look around at the way that real humans actually behave (Dostoyevsky 16 & 17). Gödel's incompleteness theorems, on the other hand, show no emotionality, just a brilliantly creative use of logic to settle an open question in mathematics (Dawson, Morris).

Thus, Dostoevsky through the Underground Man and Gödel through mathematics expose their respective perfect systems as impossible ideals. But perhaps perfection would be dreadfully boring and leave the philosopher-novelists and mathematicians alike with nothing to do.

“Man likes to make roads and create, that is a fact beyond dispute. But why has he such a passionate love for destruction and chaos also? Tell me that!... May it not be that he loves chaos and destruction... because he is instinctively afraid of attaining his object and completing the edifice he is constructing? Who knows, perhaps he only loves that edifice from a distance, and is by no means in love with it at close quarters, perhaps he only loves building it and does not want to live in it...” (Dostoevsky 25).

What possibility would be left for literary social commentary, if a society of perfect rationality could be attained? And what would a mathematician do, if all of math could be solved? Luckily, we will never have to find out.

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^[1] When the Underground Man says “man would do such and such” he is speaking of humanity in general, not a specific man. Russian is a heavily grammatically gendered language, keeping the masculine form in this translation is likely closer to the original. I am referencing Constance Garnett’s 1918 translation; wording may vary slightly in other editions.

^[2] This metaphor is introduced on page 18: “...for what is man without desires, without choice and without free will if not a stop in an organ?”

Sociology

Dylan Rehm

Bergen Community College

Mentor: Professor Seamus Gibbons

Title: “Funding Success in Low-Income Communities”

Judge’s comments: Dylan’s paper was very well researched and depended on primary sources to make his argument. Dylan constructed a strong framework for their analysis; and offered specific solutions to this complex issue. Dylan’s presentation was also clear and concise.

Dr. Kathleen Ray

Funding Academic Success in Low-Income Communities

The concept of having to survive on less than \$6.85 per day is inconceivable for many people, but this is the harsh reality for 36.8 million Americans. In 2023, the World Bank defined this \$6.85 as “living below the poverty line” in upper-middle-income countries, translating to \$24,860 a year for a family of three in the United States (U.S. Department of Health and Human Services). When taking into account that the median gross monthly rent in 2023 was \$1,406, this left those families with under \$8,000 to cover the rest of their expenses for the year (United States Census Bureau). It must be stressed that this is only the threshold for being considered impoverished — many families are living on even less than this. Not only is it hard to afford medical bills, groceries, and other necessities on such minimal funds, the financial demands of parenthood add even further stress to already difficult circumstances. In a separate report, the United States Census Bureau estimates that 13.7 percent of children in America were living in poverty in 2023, equating to a staggering number of nearly ten million. Childhood poverty has further implications — most importantly, reduced accessibility to support systems at home and in school, which then feeds into the perpetuation of generational poverty. In the country with the largest economy on the planet, how is it possible that so many people are still left behind to struggle? When discussing poverty, a variety of issues should be addressed such as labor, housing, and health. Education, however, is especially important to keep in mind when focusing on childhood poverty and the cycle of generational poverty.

Underfunded schools are abundant in low-income areas, as a large portion of school funding comes from local property taxes. In high-income areas, greater funding enables schools to provide opportunities such as AP courses, field trips, consistent acquisition of updated technology, and a larger staff consisting of highly qualified teachers. Having more teachers allows for smaller class sizes, giving students access to a much more individualized learning experience where teachers can

focus on and form relationships with each student. This gives students the chance to work with a teacher when they are struggling and strengthens the bond between student and teacher. Using data from Project STAR, Raj Chetty et al. presented strong evidence that starting as early as kindergarten, enrollment in school environments of higher quality has a strong correlation with not only increased academic achievement, but more success in adulthood as well (“How Does Kindergarten” 37). Schools in low-income areas do not have the funds to provide such an experience, and the consequential negative effects of this manifest in a wide array of educational disadvantages. The foremost of these results in a lack of essential educational resources and properly qualified teachers, which is then more often than not improperly addressed with an increase to an already bloated top-down and clearly ineffective administration, which provides a shaky foundation for education. On top of that, disadvantaged students tend to have less access to extracurricular activities, behavioral and emotional support, tutors, and at-home support. If all of this wasn’t enough, John N. Friedman, economist at Brown University, notes in his essay “School is for Social Mobility” that COVID-19 highlighted how underfunded schools struggled to maintain infrastructures, putting the health and safety of faculty and students at risk and increasing interruptions in education. The remnants of this are still felt and may be for a generation. With all this in mind, proper education is a critical part of a child’s developmental progress, but the United States is currently failing to assist this country’s children equally in securing a successful future. Therefore, in order to ensure students from all socioeconomic backgrounds are given adequate academic resources, it is imperative that schools’ funds are not exhausted on administrations and state boards of education, but rather that they reach schools, classrooms, and programs instead.

It is necessary to highlight the disproportionate ways in which minorities are affected by poverty. Though these facts are shocking enough on their own, it must not be forgotten that there is a racist component to all of this as well. A scrutiny of the census shows that of the 10 million

children living in poverty in 2023, approximately 20.3% were Black, 22% were Hispanic, and 19.3% were American Indian and Alaska natives, with white children accounting for only 12.1% (Census Bureau). This is due to the substantial income gap present between people of different racial backgrounds. Matthew Desmond, a professor of sociology at Princeton University, writes in his article “Why Poverty Persists in America” that among undocumented workers, many of whom come from these racial backgrounds, “...more than a third are paid below minimum wage, and nearly 85 percent are not paid overtime because of lack of protection from labor laws,” and that, “Compared with white families, Black and Hispanic families were nearly five times as likely to lack a bank account.” Desmond also writes in his book *Poverty, by America* that “There is no metropolitan area in the United States where whites experience extreme concentrations of disadvantage, living in neighborhoods with poverty rates in excess of 40 percent,” while many Black and Hispanic people do (22). Additionally, according to Richard D. Kahlenberg’s *New York Times* article “Focus on Class, Not Race,” “...the median Black household wealth is just one-eighth the median white household wealth.” To put this into perspective, this means that if the 50th percentile of white families have a net worth of \$200,000, the 50th percentile of Black families have a net worth of only \$25,000 – an unbelievable difference. Kahlenberg also reports: “Black middle-income families typically live in more disadvantaged neighborhoods than low-income white families.” Since schools are funded by local property taxes, a disproportionate amount of Black families living in more disadvantaged neighborhoods means they more frequently have to send their children to underfunded schools. The demographic of low-income areas is one that reflects how segregation and racism in the past have had lasting effects that still persist to this day. Though it may seem as though the United States has progressed past racism, it is now frequently less blatant and rather ingrained within the structure of our society, as the segregation of class and income still translates to the segregation of minorities.

This segregation of wealth accounts for the lack of resources in low-income schools, which have multifaceted detrimental effects. This issue is best addressed in multiple parts. First, regarding physical infrastructure, these schools contain unsafe conditions for both faculty and students. The ever-growing issue of global warming is an example of an inescapable source of danger — one which requires adequate infrastructure of buildings if protection is to be ensured. For instance, in 2022, the Maryland Department of Planning reported that Baltimore City had a poverty rate of 19.6 percent, while the poverty rate of the United States was 12.5 percent (“2022 American”). That year, according to Baltimore City’s school district Chief Operating Officer Lynette Washington, fourteen schools in that district had no air-conditioning (“U.S. Public Schools”). Similarly, in Denver, Colorado, the city’s school district said there were no air-conditioning units within forty schools. On school days with high temperatures, it can be dangerous to keep people in buildings with no way to cool down, meaning sometimes early dismissals are necessary. The Denver Public School District said that in September of that year, “...more than 30 schools in Denver Public Schools had to send kids home early and four closed for full days this month due to the heat.” Approaches like dismissals and leaving windows open at night are temporary fixes. However, not only do they not fix the problem, more can arise as a result: bugs make their way in through open windows, and, when dismissed early, students who rely on public transportation are still left in the heat when early buses aren’t available. This then causes “Students [to] get sick, distracted or miss entire days of education when conditions turn abysmal,” but they aren’t the only ones affected – “Parents sacrifice income to provide childcare when classes suddenly get canceled” (“U.S. Public Schools”). Issues with leaks, rust, and cockroaches plague these schools that are far beyond the point of needing small repairs. Mike Pickens, executive director of the National Council on School Facilities, describes how “‘The average age of a school building now is from 49 to 50 years’ — the highest in memory” (“U.S.

Public Schools”). Beyond infrastructural issues come issues with educational resources — namely supplies, faculty, support, and activities.

Understaffing is a prevalent issue in schools across the country, more so in low-income areas due to lower salary offerings and less ideal teaching circumstances. CNN correspondent Gabe Cohen writes, “Schools are competing for a shrinking pool of teachers, and wealthier suburban districts are winning out over those with fewer resources, especially rural schools and those that support more low-income families and students of color” (“Why Teachers Are Burning Out”). He quotes Chad Aldeman, policy director of the Edunomics Lab at Georgetown University, as saying, “[Teachers] are not going to the schools that are the most disadvantaged.” Well-qualified teachers are perhaps the most vital resource for students to have to excel in the subjects which they are taught. John N. Friedman notes that, along with his co-authors, they found that, “...when better teachers arrive at a school, the students in their classrooms earn around \$50,000 more over each of their lifetimes. This adds up to \$1.25 million for a class of 25 in just a single year of teaching” (“School is for Social”). However, on average, in secondary schools in America, an astonishing one-third of teachers do not have a major or minor in the field they are teaching. In high-poverty schools, this increases to a range starting at 51 percent up to 64 percent. Furthermore, in these schools, “Some 21 percent of students’ teachers failed the certification exam compared with 7 percent of white students’ teachers” (Jacob 135). In the journal entry “Deconstructing Teacher Quality in Urban Early Childhood Education,” Professor at Texas A&M University Jemimah Young asks:

If teacher quality and student performance are linked, as confirmed by prior studies, it begs the question, why are so many inexperienced teachers employed in under-resourced, predominantly African American, urban schools? Those who attend these schools, on

average, start kindergarten behind in basic academic competencies as a result of the lack of academic skill development in early childhood. (28)

She also states that approximately one-third of teachers only hold an associate's degree or no degree at all. However, a degree isn't the only thing that makes a teacher qualified — an understanding and awareness of cultural differences is incredibly important to accommodate a multicultural student body.

Teacher demographics must align with student demographics: a well-supported statistic that is often neglected during the staffing process. For example, students whose race matches that of their teacher tend to experience not only more support from and a better connection with their teacher, but experience a social benefit from it as well (Young 27). Young makes the point that “...many pre-service teachers assume that issues of race, poverty, sexuality and other multicultural concerns are not developmentally appropriate concerns for children in early childhood. However, many of these students struggle daily with the effects of these issues,” across all age groups (31). In a survey of Black male high school students conducted by Conrad E. Hamlet, he presents that the students expressed that they:

Wanted their teachers to see them as... multi-dimensional, with complicated lives, as a person who had a child to take care of and had lived on their own. Students wanted teachers to understand that students worked at night to attend school in the day and to see them as a student who had made a multitude of mistakes before enrolling in school for maybe the last time... The teachers' understand(ing) of 'self' is important to these participants because they felt it enabled them to academically succeed. (53)

Professor of Educational Psychology Jason Osborne states there is strong evidence to support that, largely in Black males, a lack of understanding by teachers leads to academic disidentification, which

can cause poor performance in school. No other group presented significant disidentification. Black males specifically are also more often neglected due to a lack of representation in male teachers. According to Richard Reeves, Senior Fellow at the Brookings Institution and President of the American Institute for Boys and Men, the proportion of male teachers in K-12 institutions is 23 percent, which has decreased since the 33 percent seen in the beginning of the 1980s (“The Case for Helping” 619). He states that “Boys develop, on average, a little later than girls. The gap is mostly in the development of noncognitive skills, which are important for school success especially in adolescence” (619). He notes there is some, albeit limited evidence that an increase in male faculty may assist male students: “Thomas Dee (2006) estimated that if half the English teachers from sixth to eighth grade were male, ‘...the achievement gap in reading [between girls and boys] would fall by approximately a third by the end of middle school,’” with no detriment to the performance of girls (619). Though some studies have shown no correlation between the two, there are differences in the approaches taken by male and female teachers which may be important when keeping in mind the developmental gap between male and female students, especially regarding conduct.

Due to cultural effects, Black male students tend to exhibit more behavior that is viewed as disruptive in the classroom, which, when paired with a lack of understanding of these cultural differences, can lead to increased punishment and improper disciplinary actions, predominantly by white female teachers (Hamlet 55). Black male students are suspended or expelled from school more than any other group and face disciplinary discrimination in smaller instances as well. They often experience lower expectations from teachers, and many are placed in the backs of classrooms as a result of disruptive behavior, increasing their chances of academic failure. For students from low-income communities, this behavior frequently stems from issues such as increased exposure to violence, a response to feeling unsafe in schools, and a diet consisting of fewer nutritional foods and lack of support at home, Wellington Williams Jr. says in his dissertation, “Female Teachers’

Perceptions of African American Male Elementary School Students Who Misbehave” (36).

Additionally, Williams also claims, “Academically failing African American male students misbehaving in the classroom are often grouped into special education and disability categories without addressing the individual underlying social, emotional, physical, psychological, and intellectual issues” (4). Williams goes on to explain how teachers unfamiliar with these underlying causes misunderstand and overreact to a situation, leading to more negative teacher-student interactions. This greatly influences student retention and increases risk of juvenile detention and prison. Female teachers are often fearful of violent behavior from male students of any race and are more likely to view misbehavior as a threat. It has been found that these students then view male teachers as more authoritative and potentially listen to them more. As seen in a statistic from the same study, “Seventy-five percent of the participants agreed that African-American male students who have a strong male role model displayed decreased behavioral issues and increased academic success” (82). If a student lacks a male role model at home, male teachers can fill this role. There is also a practice of grouping these “failing” students into the same schools, which then receive even less funding. Unfortunately, increasing male faculty in low-income schools is difficult as it has been found that, as a result of the misogynistic foundations society has been built on, “Women, generally, will accept lower salaries in return for part-time or flexible work that accommodates their family commitments” (Hamlet 25). Hamlet states, “The enhancement of teacher quality is likely to be costly. Increases in teacher incentives such as loan-forgiveness programs, heightened teacher preparation [requires] other effort to prepare, recruit and retain high-quality teachers [which is] associated with a cost factor” (30). Nevertheless, as Friedman notes, “Covid... triggered a momentous policy response. K-12 schools received nearly \$200 billion in funding across three federal stimulus bills, much of which was aimed at combating learning loss,” along with assistance in

low-income communities “...by supporting increased internet and device access” (“School is for Social”). So, if we found the money then, why can’t we continue to provide such an amount?

The only way in which to remedy these extensive issues within low-income schools is to attempt to find the root of the financial issues at hand. Finding a solution will never be as simple as the United States allocating more money to education, especially since there are already debates over whether or not education is a responsibility of the federal government, given that the right to education is not included in the Constitution. Some may argue that the United States federal government already spends too much money every year on education. According to the Department of Education, in 2024, their total budgetary resources amounted to \$241.66 billion. Though this may sound like a large sum of money, in 2024 it only accounted for 2.0 percent of the fiscal year federal budget. Additionally, while the United States spends 5.44 percent of its GDP on education, higher than several other nations, it falls below UNESCO’s benchmark of 15 percent of public funding, putting forth only 12.7 percent (Hanson). When referring to a 2021 report, president and CEO of the International WELL Building Institute Rachel Hodgdon says, “While states and the federal government contribute roughly 45 percent and 10 percent, respectively, to school districts’ annual operating costs, the capital investment required to build and modernize buildings falls most heavily on local districts and taxpayers.” While federal and state government funding may fluctuate slightly year to year, the latter point always remains true — one that immediately sets low-income communities at a disadvantage regardless of federal funding. So, though increased federal funding could help, the issue is indeed much deeper than that.

In order to assure that all of the money being poured into schools is being used to its full potential, a redirection of funds needs to be considered. On a state-wide and more localized scale, widely stretched and overstaffed school administrations allow for exorbitant amounts of funding to be lost on its way down to the individual school level. This can be seen throughout state boards of

education and higher ups in the system. For example, as shown in figure 1, the New Jersey State Board of Education contains 40 offices, a Chief of Staff, and a Special Assistant.

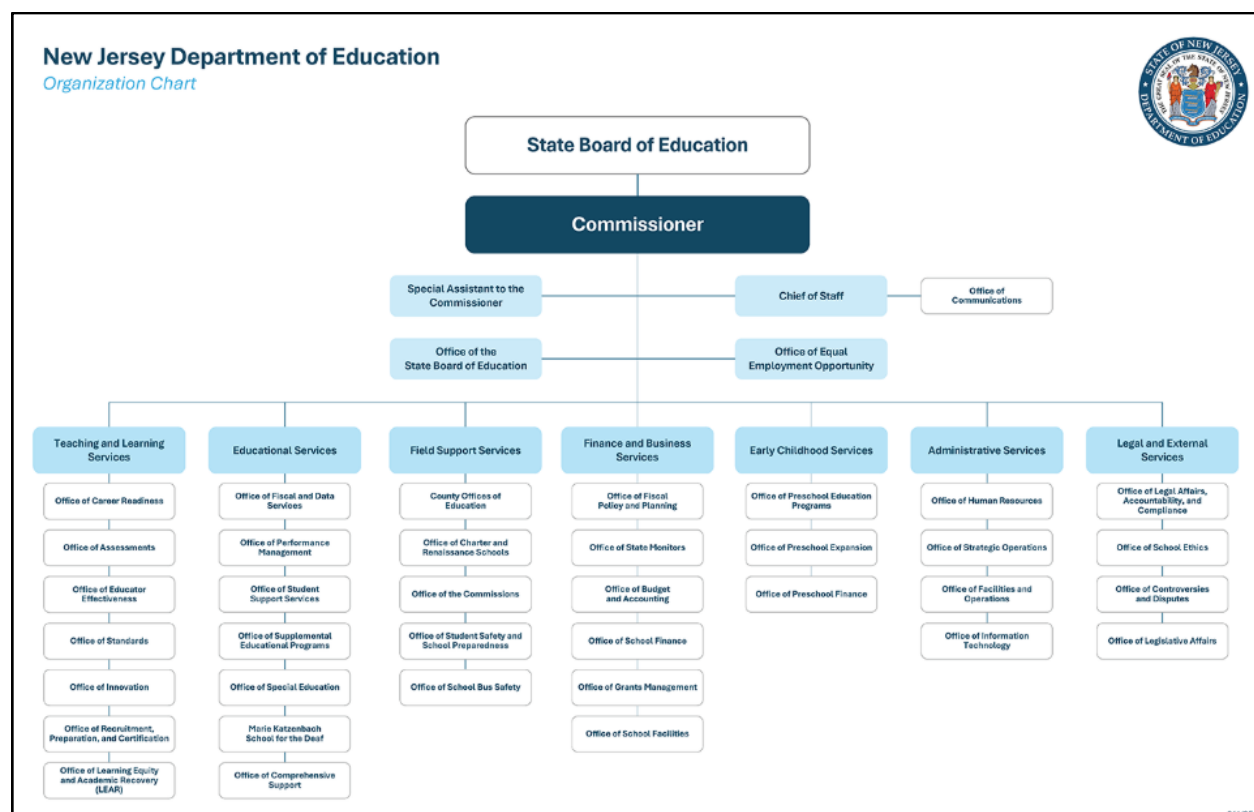


Fig. 1

“State of New Jersey Department of Education Organization Chart”

www.nj.gov/education/about/org/

Keep in mind that for the 2023-24 school year the average full-time superintendent had a salary of \$193,671, per NJ.com. According to the New Jersey Department of Education School Directory, there are nearly 500 superintendents in the state. This equates to \$96,835,500 allocated to salaries on average for the school year — and superintendents aren’t even included in the above Organization Chart. With such a top heavy and bloated administration, by the time funds reach the classroom level, schools are left with less money to put towards repairs, activities, and most importantly paying teachers adequate salaries that makes staying at their jobs desirable. Not only is an increase in salary

important, but better insurance plans, paid time off, and at-home resources are beneficial to teachers.

As previously mentioned, the majority of funding comes from taxpayers and local districts. As argued in the 1973 US Supreme Court case of *San Antonio Independent School District v. Rodriguez*, “...school districts located in lower-income areas of Texas were at an inherent disadvantage compared to those in more affluent areas, as locally raised school funds primarily come from property taxes, which are higher in wealthier neighborhoods” (“School Funding”). Therefore, “...wealthier citizens who pay higher taxes thus have access to better-funded public schools, which creates a systemic inequality that perpetuates privilege of the wealthy at the expense of students from lower-income households.” This perpetuation happens due to the issue of school choice, which is now being further expanded and encouraged by an executive order signed by the president on January 29, 2025 (White House). Naturally, families who can afford to do so would rather place their children in ideal institutions, feeding more money into these schools and taking it out of others, creating a cycle that inevitably leaves these already underfunded schools with increasingly less funds. Funding comes largely from property taxes, which means that any area with lower property value is automatically generating less revenue. Bruce Baker and Mark Weber establish in their report published through New Jersey Policy Perspective that “...without state aid, districts with low property values would have to pay much higher effective tax rates to fund their schools compared to districts with high property values.” They provide research that states that the town of Irvington, New Jersey, which has high poverty rates and low property values, would need a tax rate six times higher than the town of Millburn in the same county, which has lower poverty rates and higher property value. They conclude their report with several suggestions, specifically that it would be beneficial to “...regionalize industrial and commercial property taxes to distribute their revenues more equitably and correct racially and ethnically disparate local share requirements.” Similarly,

Jennifer L. Hochschild, Professor of Government and Professor of African and African American Studies at Harvard University, suggests redrawing district and neighborhood assignment lines in order to increase diversity in social class and funding (“Social Class” 833). The downside to this solution is that it often receives pushback from those who are in the wealthier communities, who often feel their money should not go towards other districts. However, with careful consideration of these various approaches to distribution of money, a combination of them could start a push in the right direction.

The positive impact proper funding would have on schools and, in turn, students in low-income communities, is extraordinary. With the ability to provide increased salaries and bonuses to teachers, the rate of retention would increase, and more experienced and qualified teachers could be incentivized to work in currently underfunded schools. Student participation would increase with more racially diverse representation within faculty, and with teachers who have a better understanding of the environments in which they are teaching, students will be more adequately supported. This increase in teacher quality would directly improve the quality of education. It is also known that in low-income communities there are higher crime rates, and a study conducted by E. Jason Baron, Joshua Hyman, and Brittany Vasquez showed that “Students who attended better-funded schools were 15% less likely to be arrested through age 30.” In addition to being less likely to commit crime, Friedman, the Brown University economist, reports that they tend to be more civically engaged, happier, and healthier. He also “...found that students who were randomly assigned to higher-quality classrooms earned substantially more 20 years later, about \$320,000 over their lifetimes” and that “...when better teachers arrive at a school, the students in their classrooms earn around \$50,000 more over each of their lifetimes.” Other aspects besides teachers improve student life as well; updated supplies would become accessible and opportunities to provide students with further engagement would become much more frequent.

Having field trips and after-school programs would open pathways for students to form better connections with their peers and teachers and aid in offsetting the effects that having parents who must work longer hours may have on children. Rebecca Cornelli Sanderson and Maryse H. Richards of Loyola University conducted a study on after-school programs in low-income communities, first noting that, “Juvenile violent crime rates in the community peaked during after-school hours, making late afternoon a particularly difficult time for community youth. According to FBI statistics, 47% of juvenile violent crime occurs on weekdays between 2 pm and 8 pm” (432). Providing a space for children to remain after school helps prevent involvement and exposure to these situations. For students with parents that work late, it is important to have a place where children can still be under the care of a role model after school. However, largely due to a lack of funding, “In a survey of 94 cities, only 35% of children in need of after-school care were actually enrolled in an after-school program.” When investigating this lack of enrollment, 46 percent of non-participants reported lack of a ride home and concerns about safety as a deterrent, 20 percent reported interference through family responsibilities such as caring for younger siblings, and cost was a largely reported issue as well (430). Those who attend these programs tend to have higher school attendance rates and grades, lessening failure (431). With increased funds, public transportation could be made more accessible for students, after-school programs could be made more affordable to encourage enrollment, and the resources necessary for these programs would be easier to acquire. Being able to provide better mental health support and support for disabled children is important too. It could also be more realistic to provide students with healthier meals that they may not be able to receive at home. All of this will lead to an increase in social mobility. Students who succeed more in school are more likely to have higher salaries in the future, less likely to be involved in crime, and can help break the cycle of poverty. As Friedman says, “We are leaving a vast amount of untapped talent on the table by investing unequally in our children, and it’s at all of our expense” (“School is for

Social”). Even those who are hesitant to provide further funding can’t deny that better education leads to more achievement in the workforce and, therefore, increased revenue and quality of life.

Just as in most other parts of a child’s life, often all a student needs to succeed is proper support. It can be easy for government officials and even those living in wealthy areas to view the issue of underfunded schools as primarily an economic issue, and while the path to improving failing educational institutions must focus on financial reforms, it also must be kept in mind that at its core, this is an issue regarding the well-being of children. Poverty is cyclical and affects every facet of life for those living in it, impacting jobs, housing, medical resources, education, mental health, and overall quality of life. The root of success in life can be attributed greatly to a strong education; attending a well-structured school from a young age increases the chances of going to college and seeking further education, opening opportunities for better-paying jobs. This, in turn, allows future generations to support their children, providing them with resources and breaking the cycle of poverty. Though much more comes into play when attempting to resolve poverty in America, improving education is an incredibly important start that should no longer be neglected.

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Psychology I

Catherine Park

Bergen Community College

Mentor: Dr. Laura Ochoa

Title: “The Intergenerational Transmission of Trauma Within Families”

Judge’s comments: Park offers a compelling examination of intergenerational trauma across cultural and historical contexts. She analyzes diverse studies, highlighting commonalities and differences of trauma’s transmission. Her integration of personal curiosity with scholarly research makes the paper deeply empathic and engaging. She raises important questions for future research.

Dr. Em Leskinen

The Intergenerational Transmission of Trauma Within Families

Introduction

Trauma in individuals is the product of environmental factors, and like many other types of psychological phenomena or disorders, it can be inherited — specifically within families.

Intergenerational trauma refers to how trauma can affect the descendants of individuals who have experienced trauma and how potent these effects can be, despite not having experienced the trauma first-hand. Intergenerational trauma is also known as generational trauma, multigenerational trauma, or transgenerational trauma. Transgenerational trauma refers to a slightly broader concept applicable to any trauma “passed through the relationship of ancestors and descendants” (Steinberg and Payrhuber, 2014), while intergenerational trauma often specifically refers to trauma transmitted within parent-child relationships.

The subject of intergenerational trauma was of personal interest to me as a child of Korean immigrant parents who came to the United States after spending much of their life in a nation fraught with historical trauma. During the twentieth century, South Korea underwent a period of Japanese colonial rule, the Korean War, and a succession of military dictatorships and authoritarian rule. I was interested in how the trauma associated with living through such political and social upheaval could have effects on future generations within families. I was also interested in how individual trauma, such as personal trauma related to parental neglect or emotional abuse, could impact future generations. Before conducting my literature review of the existing research on the subject, I was aware of the term “generational trauma” but had little knowledge of how it’s been studied or researched. My research has allowed me to explore the causes, effects, and implications of intergenerational trauma, broadening my understanding of it as a psychological phenomenon.

Literature Review

A 2024 study on intergenerational trauma conducted by American researchers An Huynh, Christine J. Yeh, and Phuong Tang focused on the Southeast Asian American (SEAA) community and the impact of historical trauma on the second-generation Americans that belong to this community. Second-generation Americans are defined as the children of first-generation immigrants, or individuals who were not born in the United States and immigrated to the U.S. later in life. The methodology of this study was descriptive and may also be categorized as a case study. It consisted of interviewing the participants with a set of prepared questions and using follow-up questions during the interviews to ensure clarity and that the subjects understood their answers. There were fifteen research subjects, all second-generation SEAA adults with an average age of around 28 years old. They were recruited through the interpersonal networks of the researchers and outreach initiatives on social media and online SEAA communities; eight identified as female, and seven identified as male. Each interview was conducted in English using video conference technology and lasted about 60-90 minutes. Studying intergenerational trauma within the Southeast Asian American community is a particularly interesting and important focus, as the trauma of this community has gone largely unrecognized and unnoticed as an area of study. The roots of intergenerational trauma in this community may be traced back to the violence, political upheaval, and consequent displacement of thousands of people from their home countries that resulted from conflicts like the Vietnam War, the Secret War in Laos, the Hmong genocide, and the Khmer Rouge regime in Cambodia in the second half of the twentieth century. Immigrants from these different Southeast Asian nations and communities “share a common experience with war and trauma that cannot be overlooked”, and their children “may grow up in a household of emotional and financial instability due to their parents’ historical trauma pre- and postmigration” (Huynh et al., 2024). Participants in the study were asked questions such as: “Can you share stories or experiences your parents have shared about their life before coming to America?” and “How do you think your parents’ past

traumatic experiences influenced their parenting styles or your upbringing?” (Huynh et al., 2024). One of the most important results of the study that felt most relevant to my research was how the theme of “manifestations of intergenerational trauma” emerged after the collection of data. The researchers identified this as one of the main themes across their interviews and identified two thematic subcategories of experiences, “learning about parent’s migration survival stories and struggles” and “expressions of parents’ intense experiences from the past” (Huynh et al., 2024). These experiences shaped not only the second-generation SEAA adults’ psychological relationship to their cultural identities but also their mental health. What I appreciated about this study is that it took a qualitative, humanistic, way of studying trauma that took an empathetic approach to a potentially extremely sensitive issue. It also made certain key distinctions within the research that showed how nuanced intergenerational trauma can be. For example, when reporting their findings, the researchers pointed out the unique relationship between SEAA mothers and daughters and the particular “intergenerational transmission of mental health issues, such as PTSD, depression, and anxiety, through the maternal lineage” (Huynh et al., 2024). However, I would have been curious to see the results of a study of this kind conducted at a larger scale, as this one was limited to fifteen participants who were all of similar ages and from roughly the same geographical area.

A 2017 study conducted by researchers Yael Danieli, Fran H. Norris, and Brian Engdahl focused on the intergenerational trauma experienced by descendants of Holocaust survivors and the impact of the trauma of this historical genocide on successive generations. The methodology of this study was descriptive, utilizing surveys and interviews. The researchers conducted a web survey, which was made open to the public and disseminated through online channels to Jewish organizations and/or specifically organizations and communities that supported Holocaust survivors. The inclusion criteria of the survey were “that at least one parent had lived in one of the countries occupied by or under the control of the Nazi regime for any period during 1933–1945” (Danieli et al., 2017).

Thousands viewed the website and the online survey, and 530 individuals completed the full three-part survey. Of these, 191 children of Holocaust survivors agreed to be and were interviewed by mental health professionals. An analysis of these clinical interviews found that over a quarter of interviewees “met SCID DSM–IV criteria for past-year MDE, PTSD, or GAD” (Danieli et al., 2017). SCID DSM refers to the Structured Clinical Interview for DSM Disorders, which was the format in which these interviews were conducted. MDE refers to major depressive episode(s), PTSD refers to post-traumatic stress disorder, and GAD refers to generalized anxiety disorder. Of these three, researchers found that GAD had the highest past-year frequency at 18.4%, followed by MDE at 13.7% and PTSD at 7.4% (Danieli et al., 2017). The most important part of their findings, and the section of the results I found most interesting, was that only the variables of the subject’s age and reparative adaptational impacts seemed to predict the manifestation of the previously mentioned three psychological disorders. In the study, reparative adaptational impacts were defined as reflections of “the offspring’s self-reported insecurity about their own competence, reparative protectiveness, need for control, obsession with the Holocaust, defensive psychosocial constriction, and immature dependency” (Danieli et al., 2017). Parental styles and characteristics, labeled “parents’ posttrauma adaptational styles” (Danieli et al., 2017) in the study, had relatively less influence. Rather, it was how the children of Holocaust survivors responded to their parents’ trauma that seemed to determine the presence of mood or anxiety disorders. A strength of this study is that it involved more statistical analyses than some of the other studies I researched and provided a quantitative look at trauma transmission. However, I would have been interested to see more discussion on why there was a difference between the kinds of psychological disorders correlated to the participants’ mothers’ parental styles and the disorders correlated to the fathers’ parental styles. This point was only mentioned briefly when reporting the results, and I would have liked to read a more extensive discussion on why this occurred.

A 2022 study conducted by researchers Emma Reese, Melissa Barlow, Maddison Dillon, Sariah took a slightly more holistic, family-centric, approach to the subject of intergenerational trauma. This study examined how the adverse childhood experiences (ACE) and positive childhood experiences (PCE) of a parent or parents shape the intergenerational transmission of trauma (ITT) and their children's adverse family experiences (AFE). The study also explored how family health was impacted by these experiences. This study was a correlational study seeking to research the relationship between the variables of the parents' experiences and their children's and overall family experiences. The sample of research subjects consisted of 482 married or cohabiting heterosexual couples in the U.S. who had a child between 3-13 years old, and each member of every couple answered a series of survey questions that gauged their own ACEs and PCEs, as well as their current AFEs within their family units. The questions about AFEs "examined family dysfunction and risk factors within the family unit" (Reese et al., 2022). For example, they addressed issues such as whether or not a couple's child had had to live with anyone who was mentally ill for an extended period of time or whether their child had ever been a victim of violence at school or in their neighborhood. The parents' ACEs and PCEs were measured through questionnaires, and parents reported on their family's health by indicating degrees of agreement or disagreement with statements like "We support each other" or "We help each other make healthy changes" (Reese et al., 2022). The results of the study found that there was a strong correlational relationship between parents' childhood experiences and their children's family experiences— particularly between the mothers' ACEs and children's AFEs. However, there was no direct relationship between parents' PCEs and the child's AFEs. In other words, trauma was transmitted from parent to child, but positive experiences did not necessarily mitigate or ease AFEs. Furthermore, "fathers' ACEs were predictive of worse family health, but there was no association between mothers' ACEs and family health. Both mothers' and fathers' PCEs were predictive of positive family health" (Reese et al., 2022). This

may invite a more in-depth discussion about the role of gender in families centered around heterosexual couples and how this affects ITT. One of the things I appreciated the most about this particular study was the level of dedication the researchers had to being as inclusive and comprehensive as possible in their work. For example, in their report they stated, “To obtain a more representative sample, a proportion of the sample was required to have at least one partner in the dyad who was a racial minority or at least one partner who had less than a high school degree” (Reese et al., 2022). Their consideration of these kinds of factors around diversity reflects how careful they were to create an unbiased study. However, I would have liked to see these researchers include the couples’ children’s responses as well.

A 2024 study conducted by researchers Jordana Douglas, Marianna Perlstein, and Lillian Polanco-Roman aimed to explore intergenerational trauma within Black American families, with a unique focus on storytelling. The researchers point out that often, “intergenerational trauma is transmitted as a result of a lack of direct communication about traumatic experiences within families” (Douglas et al., 2024). Therefore, storytelling within the family may be a powerful and important tool in protecting against the negative effects of intergenerational trauma. The methodology of this study was descriptive, conducted through a two-step process of a short online questionnaire that asked demographic questions and a virtual interview conducted over Zoom. Each interview was 30-60 minutes long and open-ended in nature, and every participant was interviewed alone. Eight families participated in the study, and the research subjects were seventeen individuals total, all over the age of fourteen and identified as Black Americans. In the results of the study, four main themes emerged: “Sharing is Caring...”, “Family Ties”, “The Reality of Racism”, and “Safety in Silence” (Douglas et al., 2024). Upon examining the theme of “Safety in Silence” in particular, the researchers found that when an individual did not share their traumatic experiences with members of their family, they often withheld these stories because they believed that was the best way to

protect their emotional wellbeing and stability, their family members' emotional wellbeing, or both. However, ultimately, the study found that “parents who shared stories of their traumatic experiences with their adult children described doing so to educate them, to foster a bond and connection, to encourage them, as well as to help themselves process and heal, all of which contributed to a sense among them that sharing stories across generations was ultimately beneficial” (Douglas et al., 2024). What I found most interesting about this study is that it offered a completely different perspective to intergenerational trauma by examining the role of storytelling not as a way to relive trauma but rather as a way to process it and educate younger generations on how to manage it themselves. I would be interested to see this study conducted on a larger scale, incorporating different geographical locations across the United States.

A 2024 study conducted by researchers Rawan Atari-Khan, Nuha Alshabani, S. Dolma Rabgay, Farida Refaat Elhedk, Ava Clifford, Sofia Gomariz, and Warda Sahib focused on intergenerational trauma in Arab, Middle Eastern, and North African (Arab/MENA) families in the United States. This study is an example of descriptive research, as it was conducted through interviews of the research subjects. There were 12 participants total, all of whom were over 18 years of age and identified as a second-generation Arab/MENA American immigrant. Review and analysis of the interview transcripts through interpretative phenomenological analysis (IPA) found that there were several common themes throughout: “historical family context, perceived parent trauma responses, transmission of emotional pain, and immigrant guilt” (Atari-Khan et al., 2024). One of the most interesting aspects of the results was how strongly tied these children of Arab/MENA immigrant families felt to their parents' emotional trauma. Three quarters of the participants “described taking on the emotional pain of their parents” (Atari-Khan et al., 2024). One of the participants stated, “I felt like I was living in my mom's trauma. Like a lot of I felt like I was experiencing PTSD symptoms that were her trauma” (Atari-Khan et al., 2024). However, what was interesting to note is

that another shared theme that emerged was “avoidance of emotion” (Atari-Khan et al., 2024). Many participants reported feeling like their parents never truly discussed the emotional impact of the trauma they had to face in their homelands, which some of them attributed to their parents not having fully processed it. What I appreciated about this study is that it offered a perspective exclusively centered around the recipients of intergenerational trauma and how they view their parents, or the people who transmitted it to them. However, I would have been interested to see an incorporation of the parents, perhaps in the form of a controlled conversation between parent and child in order to observe the psycho-emotional dynamic between them.

A 2024 study conducted by researchers Zlatomira Kostova and Vanya L. Matanova examined and analyzed one specific woman with “dissociative symptomatology”, whose ancestors had “experienced individual and collective trauma” (Kostova et al., 2024) related to an oppressive political regime. This study is a case study, as it is an in-depth study of a single research participant, and the research subject was a twenty-five-year-old Bulgarian woman of Turkish origin “who sought psychological help for panic attacks, claustrophobia, social anxiety and fear of intimacy” (Kostova et al., 2024). The methodology of the study was a series of interviews conducted between the research participant and women of three different generations of her family. The results of the study showed that most of these women displayed “high levels of anxiety” and a “lack of responsiveness to the needs of the child” (Kostova et al., 2024). The researchers identify these factors as manifestations of historical trauma. For example, they note that in the second generation of the family, there was a “fear of abandonment by the family due to political events (many families left the country as a result of political events)” (Kostova et al., 2024). In this way, this study explores insecure attachment as both a cause and a manifestation of intergenerational trauma. What I liked and found most interesting about the study is the broader conclusion the researchers came to. They believe that “the process of disidentification from the traumatic experience of the ancestors” is a freeing process

(Kostova et al., 2024). They state that “This is the way for the subject to gain freedom in the formation of his identity and individuality” (Kostova et al., 2024). This is a unique perspective among the studies that I have examined in this literature review; other researchers did not focus on disidentification or the process of detaching oneself from a parent or parents’ trauma.

Conclusion

Upon conducting this literature review, it becomes clear that because intergenerational trauma is such a broad subject, researchers will often identify a particular group or community to study. In order to gain a more comprehensive and nuanced understanding of the intergenerational transmission of trauma as a psychological phenomenon, it is necessary to conduct more extensive research about groups across different demographics. For example, I am interested to see if there’s been research done on less traditional families: family units centered around nonheteronormative couples, families with one parent, etc. I am also interested to see if there’s been research done on very specific types of trauma. How does the trauma of a natural disaster impact how parents raise their children? If an individual experienced domestic abuse at the hands of a parent, how does that impact their child if they have a family of their own? A more in-depth examination of intergenerational trauma may also require some kind of comparative analysis of different groups of children living in the same geographical area and receiving approximately the same education and resources. This kind of analysis would explore any contrasts between the mental health of children who have experienced or are experiencing intergenerational transmission of trauma to children who have not. Overall, it may be concluded that intergenerational trauma in families is an area in psychology that is far from being exhausted in terms of research and studying it in depth will provide important insights into not only how trauma can often transcend time and space, but also into the ways in which families can become healthier, happier, and more resilient.

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History I

Carol Tapia

Reading Area Community College

Mentor: Dr. Jodi Greene

Title: “How Reagan’s Administration Response to the AIDS/HIV Epidemic Affect the LGBT Community”

Judge’s comments: Carol Tapia’s essay explores the detrimental impact of Reagan's administration on the LGBT community during the HIV/AIDS epidemic, exposing the societal, governmental, and, importantly, human consequences of the “gay plague” myth. Her research invites an exploration into the grassroots legacy of the LGBTQ+ movement and its resistance to myths and the inaction of public officials. This highlights the importance of grassroots organizing and civic action. Furthermore, her paper provides a glimpse into the significance of critical media literacy and how public discourse can influence and distort scientific understanding, particularly when influenced by political or religious factors.

Excellent work to Carol and all presenters – keep studying history!

Dr. Heath Bowen

How Reagan's Administration Response to the AIDS/HIV Epidemic

Affect the LGBT Community

The 1970s was the era of post-civil rights and sexual revolution. The LGBT community struggled and endured a lot of discrimination and violence, particularly with their sexuality being considered a mental health disorder until 1973. By the 1980s, the gay community was making some progress toward legalized freedom. Unfortunately, with the election of the presidential administration of Ronald Reagan, the LGBT community was not just about to face a political party that embraced homophobia, but an epidemic that will forever change their community's history. As Mark Thompson stated in March 1980, Reagan said he would not condone homosexuality. With Reagan's presidential campaign came more extreme conservative religious groups, one of them being the Christian Voice, a group against gay and women's rights, who supported Reagan and officially announced their group taking up major fundraising efforts for his campaign.^[1] With a government that fixated on religious outcomes, an affected population of people had to navigate an epidemic without the crucial aid they needed. The Reagan administration's response to the HIV/AIDS crisis was very detrimental to the LGBT community by hindering proper healthcare, spreading misinformation against the community, and causing unnecessary suffering and deaths.

The Reagan administration's biggest hindering of proper healthcare caused HIV/AIDS to spread at an exacerbated speed. Initial response to the epidemic was nonexistent and the government declared the issue to not be a national problem at a federal level, therefore states and localities had to deal with the issue as they saw fit.^[2] This gave way to U.S citizens initially thinking HIV to be something completely different and mislabeled it "gay-related immune deficiency or GRID."^[3] Thompson presented a report from the news page that Dr. Alexander Carden stated to explain what they thought this virus was, "Recent media reports have trumpeted a new form of pneumonia that supposedly attacks gay men... The disease in question, *Pneumocystis carinii*, is caused by a

protozoan. Its victims are always people with weakened immunities: cancer patients, people recuperating from transplants, or others taking medication that suppresses their immunological systems."^[4] With a lack of knowledge of HIV, the government's reaction time was not swift enough to increase further research. The main media term in which the spread of the existence of HIV/AIDS was the stigmatization of the virus being the "gay cancer" or the "gay plague."^[5] This gave rise to homophobic groups attacking the LGBT community and hindering help to those affected with HIV/AIDS.

The actions taken as soon as the epidemic started to spread were no better than when HIV/AIDS had first appeared. Lack of information shared with the public gave way to a much faster and deadly spread of the virus. The public only had rumored information regarding HIV and how it spreads. Some of those rumors were "spread through using the same public toilets, drinking out of the same water fountain, and breathing the same air"^[6] as those infected with the virus. By November of 1982, the CDC reported that nationally there had been 775 cases of AIDS and 294 of those cases died due to AIDS.^[7]

The spread of misinformation against the community caused a dangerous scenario for those infected and for the entire LGBT community. Presidential biographer Merle Miller argued that, "Reagan is an enemy of gays, of women, of the ERA, of the twentieth century. Even with his humble beginnings as a Des Moines, Iowa sports announcer, Reagan is considered the "dumbest president" and many fear who he might appoint to the Supreme Court once he becomes president."^[8] With Reagan winning the presidency and Republicans winning numerous seats in the Senate, Christian rights groups, like Moral Majority, campaigned to remove or undermine any congress member that repealed their consent.^[9] With such power within the government, Christian rights groups had been successful at denying any funding for education, programs, counseling, and any other care for people with AIDS.^[10] Antigay conservative groups used campaigns to promote the

rhetoric of homosexuality being a moral and social degeneracy and AIDS being the punishment for such behavior.^[11] Such campaigns were deceptively swaying the public to consistently recall that when the initial AIDS cases were found to be spread it had been by what they called "abhorrent people" and their homosexual lifestyle.^[12]

As the virus spread and many of those infected died, the healthcare system had to figure out how to manage such an epidemic with little to no help from the government. Reagan's administration did not support medical research, did not push to expedite an effective form of testing, would not promote medically supported AIDS education, and did not want to release any form of AIDS-related drugs or therapies.^[13] With lack of support from the government, many infected had to look for help within their community. In February of 1983, in Lakewood, Ohio, an LGBT organization raised funds to donate to the CDC for research and treatments of AIDS. The organization managed to raise roughly \$10,000. By May of the same year, the Reagan administration pushed to reduce all federal funding from the CDC for any HIV/AIDS related projects.^[14] Backlash from community leaders and organizations set forward another civil rights movement from the LGBT community.

Proper healthcare for those affected by the virus was a battle from the start. In the 1980s, during the AIDS pandemic, a battle ensued between politicians, health coverage investors, and AIDS activists due to the exposure of those infected to employers and health care providers who marked those infected as a loss and risk.^[15] Several reasons were used to excuse health insurance companies to deny coverage for certain conditions that could be related to someone infected with AIDS. Gerald Oppenheimer and Robert Padgug, two policy experts, stated in 1987, "AIDS is an epidemic of uncertain proportions and characterized, it is believed, by the consumption of unusually high levels of health care." ^[16] Many who had health insurance through their employers had to consider that they can be exposed by their health insurance of their sexuality and health condition if they were suspected of being gay.

The Reagan administration continued to deny support for any expansion of federal government involvement. Patton, a critical scholar, stated that there needs to be a deconstruction of the "Reagnism" altruism rhetoric that had been dealt with two decades prior.^[17] Consequently, towards the end of the 1980s, 40% of those infected with AIDS had to apply for Medicaid, which ended up taking 25% of all healthcare costs.^[18] The community took over and created organizations to focus on those infected with AIDS with no healthcare. One of those AIDS service organizations was a New York City organization, Gay Men's Health Crisis, created in 1987, to move their focus from education and research of HIV/AIDS to establishing volunteer-based programs for domicile care of those infected.^[19]

The administration's strong religious agenda included the rhetoric of extermination of homosexuals or others within the gay community. Jennifer Chan explains how conservative doctors and politicians within the administration used "Scientific" information regarding AIDS as ammunition to push and excuse their "God's Curse" theory that imposes the idea that "AIDS is God's way of weeding his garden"; Chan quotes Reverend Greg Dixon, "If homosexuals are not stopped, they will in time infect the entire nation, and America will be destroyed."^[20] White right-sided conservative nationalist, Christian groups, started to take over other government positions, federally, at the state level, and at the local level. Their biggest accomplishment was to ensure positions within the judicial branch at all levels. They denied many laws that would have protected minorities being affected by HIV/AIDS.

In December of 1982, there were evidence that AIDS could be transmitted by blood transfusion.^[21] By 1983 and 1984, a scientific article was published by the Harvard School of Public Health and the CDC, reporting that blood sample transfusions from AIDS patients and donors might be infected with the virus and the public to be made aware of it.^[22] Even with such information that rebutted the homophobic rhetoric, the public was still blindsided and not given all

the information regarding the virus. Many within the LGBT community strongly blamed the Reagan administration for all the unnecessary deaths. As the situation worsened, the federal government could not continue to ignore the devastating outcome of the virus.

Former Surgeon General, C. Everett Koop, tells the interviewer, Fitzhugh Mullan, the change that finally came from the federal government regarding HIV/AIDS. Koop said, "When Otis Bowen became HHS secretary in 1985, that all changed.... Then President Reagan asked me to write a report on AIDS for the American people."^[23] The report would come to be the first federally provided resource in preventing HIV to the public by their state or local health departments.^[24] By 1987, the CDC established a more comprehensive national AIDS hotline, information clearinghouse, and school-based HIV education plans.^[25] Unfortunately, by the end of the 80s, many had already lost their lives.

The 1980s were supposed to be a time of revolutionary progress for the LGBT community after the 1970s sexual revolution. Instead, the 80s brought back the fight and struggles placed on the LGBT community by society and its religious conservative opposers. As the 1990s rolled in, the consequences of the lack of response from the Reagan Administration were finally being properly documented and published. Duchess Harris and Martha Harris state that by 1987, in New York City alone, there had been ten thousand people infected with HIV/AIDS, and of those, half of them had died.^[26] In the same year, an antiretroviral named AZT received approval for the use of the public, even though it had barely been studied, brought many dangerous side effects and was expensive. Some patients reportedly paid an average of eight thousand dollars yearly.^[27] Within the years of 1988 to 1995, it was reported that 78% of deaths related to AIDS complications were of gay men between the ages of twenty-five to fifty years old, which the LGBT community came to know as The Lost Generation.^[28] In 1993, Congress approved a travel ban on all individuals who were HIV positive due to the public still panicked of getting infected, even with all the advances and

information available.^[29] The hysteria associated to HIV/AIDS and the LGBT community still lingered in the 90s and into the new century. The power of misinformation campaigns from the extremist religious groups and conservatives in the Whitehouse became solidified in society for far longer than many thought, especially after breakthroughs in medicine and the abundance of updated HIV/AIDS educational information available to the public.

The new century brought much-needed hope for those who still lived with HIV and those being persecuted for being blamed for spreading the virus. After a very controversial case in the Supreme Court, on June 26, 2003, the court accepted the protection of anyone's sexual orientation under the 14th Amendment. This gave the LGBTQ community the opportunity to be viewed as any other citizen and therefore be treated as so at a legal level. Twelve years later, the legalization of same-sex marriage was ruled in another infamous Supreme Court case. The progress gave rise to the proper healthcare for those in the LGBTQ community who were HIV positive to live longer, healthier, and even be remissive.

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Biology

Min Khant Oakker

Borough of Manhattan Community College

Mentor: Dr. Lauren Goodwyn

Title: “The Effects of Mercury Poisoning on Brain Anatomy

Judge’s comments: Mr. Min Khant Oakker’s work on the effects of mercury poisoning on the brain was quite impressive. His paper was very well written and contained many fascinating insights into non-traditional topics related to mercury poisoning, such as a case study on mercury exposure in indigenous populations such as the Inuit. Mr. Oakker’s presentation was also incredibly well done. His slides were very clear and well organized and his answers to questions demonstrated an impressive level of mastery and critical thinking. Congratulations!

Dr. Bianca Wentzell

The Effects of Mercury Poisoning on Brain Anatomy

Introduction

Mercury is a highly toxic element that poses a serious risk to human health, especially when it comes to the nervous system [5]. It exists in various forms—elemental, inorganic, and organic (methylmercury, or MeHg)—each with different toxicity levels and mechanisms of harm [1]. Historically, mercury exposure has led to significant health crises, such as the Minamata disease in Japan and the "mad hatter" syndrome linked to the millinery industry.

In the environment, mercury is released from natural sources like volcanic eruptions and human activities, such as mining and burning fossil fuels (Figure 1). It is also used in agricultural fungicides specifically because of its toxic properties [5]. Once released, mercury can travel through the atmosphere and settle into ecosystems, where it often transforms into methylmercury—a particularly

dangerous form that targets the nervous system. Chronic exposure can occur through contaminated fish or other seafood sources where it bioaccumulates, or concentrates in animals, in the food chain;

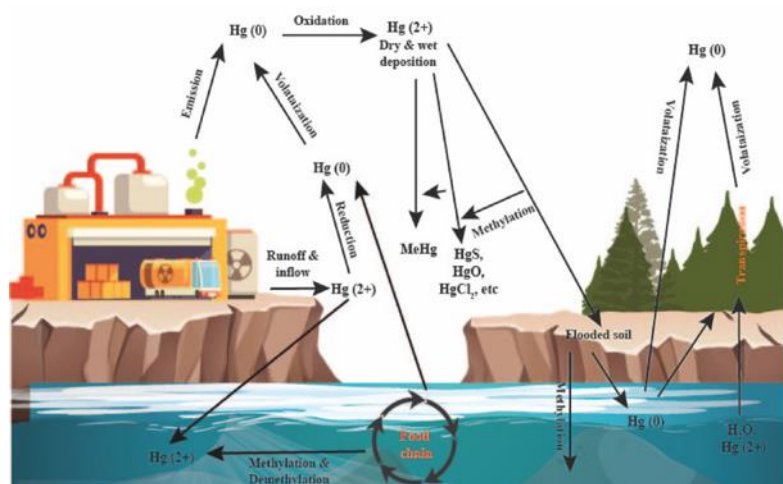


Figure 1. Global Mercury Source Cycle in Water, Soil, and Air ²⁷

thus, it is more prevalent in places like Japan, Canada, and Iraq, where seafood is a primary source of food for local civilization [2].

Mercury and the Blood-Brain Barrier

Mercury exposure leads to severe neurotoxicity effects, especially when it crosses the blood-brain barrier (BBB) that protects the brain from toxic materials. The blood-brain-barrier is a highly specialized barrier that separates the blood in the blood vessels from the brain's extracellular fluid, maintaining a stable environment for neuronal function. It is formed primarily by a single layer of endothelial cells lining the blood capillaries in the brain, which are tightly joined by structures known as tight junctions (Figure 2). These junctions are composed of various tight junction proteins, creating an almost impermeable barrier to large or charged molecules, thereby regulating the entry of ions, nutrients, and macromolecules from the blood into the brain [6]. The endothelial cells at the BBB are supported by astrocytic end-feet (Figure 3), which are extensions from astrocytes, a type of supporting cell in the brain. Astrocytes and pericytes (another supporting cell), which are located on the outer surface of the capillaries, play critical roles in signaling and maintaining the structural integrity of the BBB. Astrocytes, in particular, release factors that help induce and maintain the endothelial cells' barrier properties, making the BBB highly selective and responsive to the brain's needs.

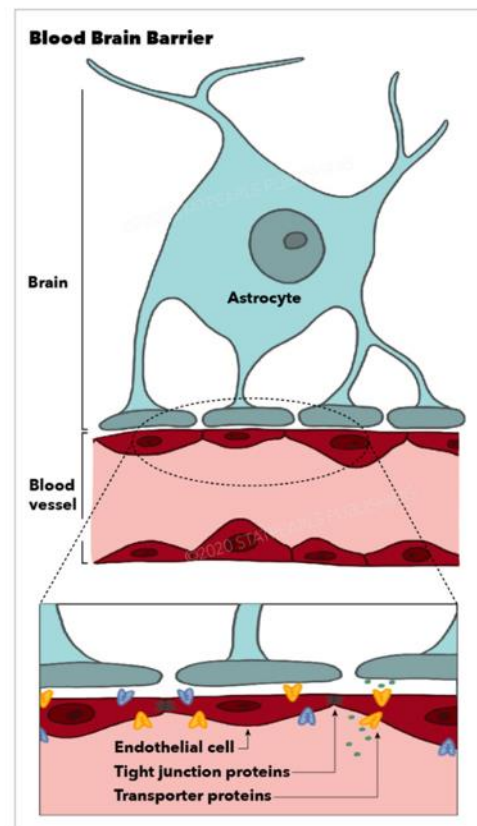


Figure 2. Blood-brain-barrier between brain and blood vessel ⁷

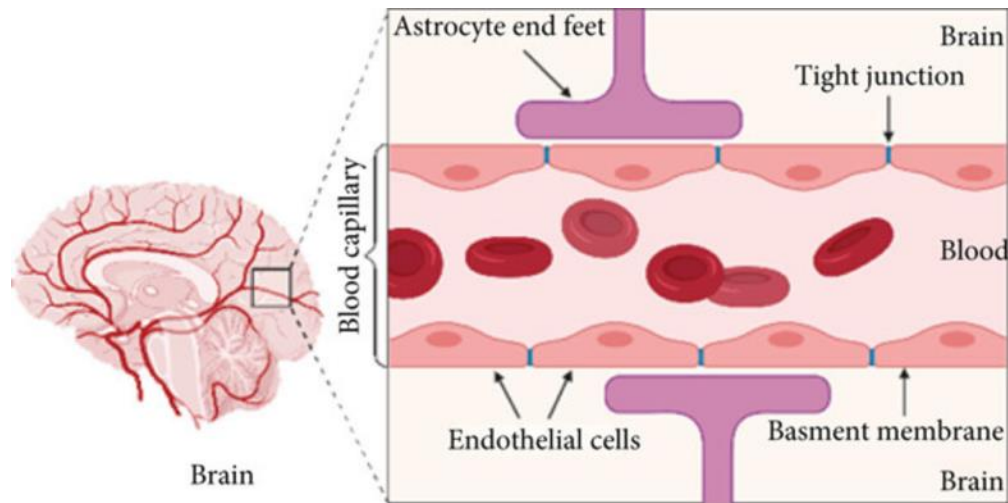


Figure 3. Brain and Longitudinal Zoom-In of the Blood-Brain-Barrier ²⁴

In the nervous system, which includes the brain, ions—electrically charged particles like potassium (K^+), calcium (Ca^{2+}), and sodium (Na^+)—are crucial for transmitting signals between nerve cells. These ions have specific concentrations inside and outside the nerve cells that allow diffusion of ions to occur in and out of the cells. The BBB tightly regulates the ionic balance of the brain by maintaining lower concentrations of potassium in the extracellular fluid than in blood, which is essential for stable neuronal activity. By controlling levels of ions like calcium, potassium, and sodium, the BBB supports proper communication between cells [6].

One of the BBB's critical functions is protecting the brain from neurotoxic agents, which include both endogenous waste products (waste secreted by the body's metabolic reactions: urea, carbon dioxide, and lactic acid) and environmental toxins like mercury. The BBB uses energy to actively remove neurotoxins through proteins called ATP-binding cassette (ABC) transporters located on the cell membrane. Additionally, the cell membrane, enclosed with phospholipids, is hydrophobic, and does not allow most molecules that are not lipid-soluble to pass through. However, some toxins, including methylmercury, are lipid-soluble and can diffuse across the BBB, bypassing these mechanisms. This solubility allows methylmercury to accumulate in the brain,

where it disrupts neuronal function by impairing calcium ion channels, disturbing neurotransmitter systems (e.g., glutamate), and promoting oxidative stress [6].

Mercury can cross the blood-brain barrier (BBB) due to its lipid-solubility and allows it to accumulate in brain regions, primarily affecting the cerebellum and motor control centers, which cause neurological impairments [6]. This vulnerability of these neural structures to mercury-induced problems disrupts neurotransmitter systems such as calcium ion regulation [1].

Mercury Mechanism in Cellular Processes: Calcium Channels

Mercury's neurotoxic effects in the nervous system center on the pathways of communication between cells and in the concentration of certain molecules in the cell [3]. Calcium channels are proteins on the membrane of nerve cells that allow Ca^{2+} ions to enter and exit the cell, which is crucial for sending signals and releasing neurotransmitters (the chemicals that pass messages between cells) (Figure 4). MeHg binds to these channels, preventing Ca^{2+} from entering the cell normally [9]. Calcium channels have specific amino acids (like cysteine) that contain sulfur, which are essential for the channel's structure and function. Mercury has a high affinity for sulfur, so when it binds to these sulfur-containing groups, it changes the structure of the channel.

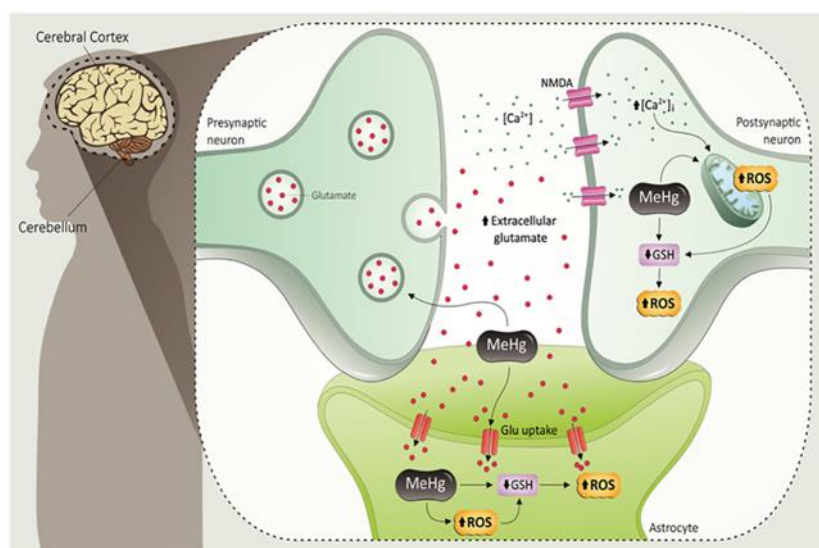


Figure 4. Mechanism of Methylmercury on Calcium Channels ²⁸

This structural change can prevent the channel from opening and functioning normally, blocking calcium ion entry altogether, thus preventing the neurotransmitters to travel and blocking communication with the next cell. MeHg does not block the channel all at once. Initially, it may even cause a slight increase in activity, but over time, it leads to a complete block of Ca^{2+} flow through these channels. Once MeHg has bound to the calcium channels and blocked them, the effect cannot simply be reversed by removing the MeHg. The channels stay blocked, which has long-term consequences for nerve cell signaling and muscle function [9].

Mercury Mechanism in Cellular Processes: Protein Degradation

When methylmercury (MeHg) enters cells, it affects processes like the ubiquitin-proteasome system (UPS), which selectively removes damaged or excess proteins for degradation. Consequently, the accumulation of these proteins harms the cell [11]. In cellular respiration, pyruvate, a key

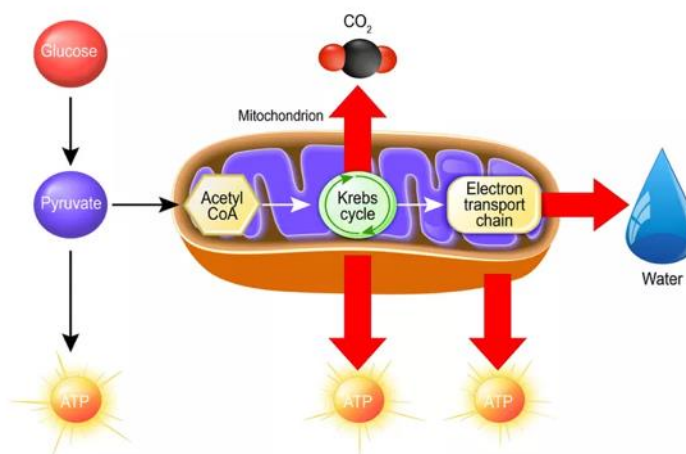


Figure 5. Pathway of aerobic respiration, illustrating ATP production and byproducts ³³

cellular energy source, is transported into the mitochondria of the cell to be further processed into a molecule called acetyl-CoA and produce energy while doing so (Figure 5) [31]. A protein called Dld3 aids the formation of pyruvate in the cell [23]. Research shows that MeHg exposure increase levels of Dld3, thus also leading to higher pyruvate levels in the mitochondria (Figure 6) [30]. Though an adequate amount of pyruvate is beneficial for energy production, an excess amount can impair cellular processes. For instance, when the excess pyruvate is not processed into acetyl-CoA

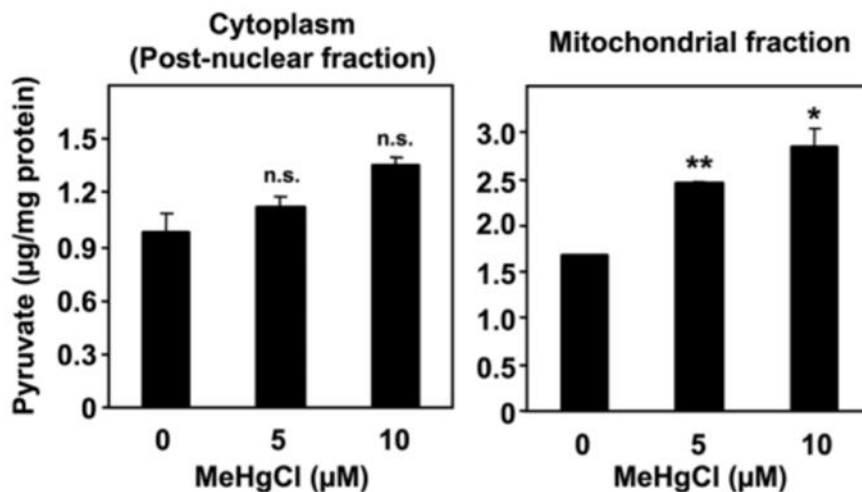


Figure 6. Methylmercury Induced in the Transport of Pyruvate.³⁰ This shows that the increase in the amount of MeHgCl in the cell cytoplasm and mitochondria corresponds to the increased amount of pyruvate.

in the mitochondria under MeHg exposure, the balance between pyruvate and acetyl-CoA is disrupted. This causes the mitochondria to swell and function poorly, eventually leading to cell death [10, 32]. This suggests that the opposing functions of the UPS system and methylmercury, where the UPS system decreases excess Dld3 and methylmercury increases it, plays a role in cell health.

Mercury Exposure in Indigenous Communities

Indigenous populations are especially vulnerable to mercury exposure due to their reliance on traditional diets that mostly include fish and marine mammals that are concentrated with mercury. In the Canadian Arctic, Indigenous communities such as the Inuit have experienced elevated mercury levels from consuming fish and marine mammals, both of which tend to bioaccumulate methylmercury from environmental sources (Figure 7) [17,16]. This exposure route is especially concerning for populations with limited dietary alternatives, as it poses health risks without readily available substitutes for traditional food sources [16]. The impact of environmental contamination on Indigenous food sources has raised alarms among community members, as

mercury levels often exceed safe consumption limits set by regulatory bodies, leading to widespread concern about food safety [15].

Similarly, in Brazil's Amazon basin, Indigenous communities like the Munduruku have faced mercury contamination due to illegal artisanal gold mining. The mining releases mercury into local rivers, where it is converted into methylmercury and accumulates in fish consumed by the local populations [15]. In these areas, fish is a primary protein source, which makes it difficult for these communities to avoid mercury exposure without facing nutritional deficiency. High levels of mercury in hair samples from Munduruku individuals highlights the extent of this exposure. For instance, in the

villages of the Indigenous land in the Brazilian Amazon, the median hair mercury levels is at 6.6 $\mu\text{g/g}$ with the highest being 23.9 $\mu\text{g/g}$ and the lowest being 1.4 $\mu\text{g/g}$ (Table 1). Although, between the villages, the Sawré Aboy population contains the highest averages with a total of 11.5 $\mu\text{g/g}$ median and a 12.2 $\mu\text{g/g}$ mean. Meanwhile, the Poxo Muybu population comes in second place at a 6.6 $\mu\text{g/g}$ median and a 6.8 mean. The Sawré Muybu population has the lowest values with a 5.2 $\mu\text{g/g}$ median and a 6.4 $\mu\text{g/g}$ mean (Table 1). It can be concluded that the communities in the Sawré Aboy village has higher mercury exposure from the food source that might have been contaminated by mercury in the local rivers. Many readings surpass WHO's safety threshold of

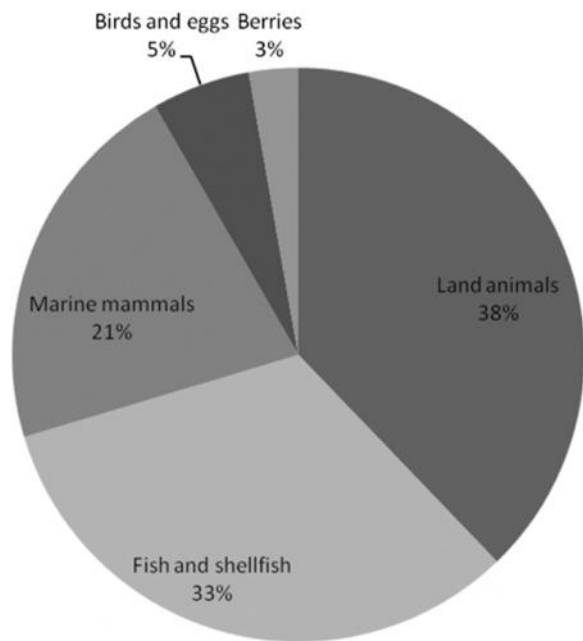


Figure 7. Traditional Diet Chart of Preschool Inuit Children from Nunavik.²⁹ This pie chart shows that most of the food source for the Inuit children comes from seafood, which is highly prone to mercury.

hair mercury levels, especially in vulnerable groups such as women of childbearing age and children [15].

Hair Mercury Levels							
Villages	<i>n</i>	Mean	Standard Deviation	Median	Minimum	Maximum	≥6.0 µg/g
<i>Sawré Muybu</i>							
Children < 12 years	38	5.9	4.7	4.3	1.6	22.1	28.9
Adults ≥ 12 years							
Male	24	7.3	3.2	6.9	2.6	16.0	66.7
Female	29	6.3	3.5	4.7	2.0	14.1	41.4
Total	91	6.4	4.0	5.2	1.6	22.1	42.9
<i>Poxo Muybu</i>							
Children < 12 years	28	5.9	2.6	5.8	1.4	11.8	46.4
Adults ≥ 12 years							
Male	18	7.1	2.3	7.3	2.8	11.9	61.1
Female	20	7.6	2.2	7.3	4.2	12.9	80.0
Total	66	6.8	2.5	6.6	1.4	12.9	60.6
<i>Sawré Aboy</i>							
Children < 12 years	15	11.0	5.7	10.1	2.6	23.9	80.0
Adults ≥ 12 years							
Male	14	13.6	5.4	14.2	4.8	22.8	92.9
Female	11	12.1	4.1	11.9	5.0	20.2	90.9
Total	40	12.2	5.3	11.5	2.6	23.9	87.5
<i>All Villages</i>							
Children < 12 years	81	6.9	4.8	5.5	1.4	23.9	44.4
Adults ≥ 12 years							
Male	56	8.8	4.6	7.5	2.6	22.8	71.4
Female	60	7.8	3.8	7.3	2.0	20.2	63.3
Total	197	7.7	4.5	6.6	1.4	23.9	57.9

Table 1. Hair Mercury levels (mean, standard deviation, median, minimum, maximum, and prevalence % of ≥6 µg/g), according to the villages of residence (Sawré Muybu, Poxo Muybu, Sawré Aboy), by age group and sex, Sawré Muybu Indigenous Land, Pará, Amazon, Brazil, 2019. ¹⁵

Research has shown that prolonged mercury intake can lead to cognitive impairments, motor dysfunction, and a range of other neurological deficits [17]. This exposure leads to long-term health risks, especially amplified by socioeconomic factors such as limited access to healthcare and alternative sources of nutrition [17,15].

Consequences of Change in Traditional Diets

The challenges tied to mercury exposure are further complicated by the dietary importance of traditional foods within Indigenous communities. For example, advising against the consumption of fish that may be contaminated could disrupt practices, diminish the quality of their diet, and lead to nutritional deficiencies. Traditional foods are rich in essential nutrients that are

hard to replace with commercially available alternatives [15]. For instance, the Kalahari Bushmen, also known as the San people, had a surprisingly diverse and organized diet that provided 35% of the energy from meat and 65% of the energy from plant-based food. The percentage of different food groups changed seasonally, as reported in the early 1960s, but a major change took place in 1984 when the Kalahari Bushmen community transitioned to food source provided by local stores or the government. In such change, most of the food energy came from corn alongside of small amounts of meat and plant-based food. The shift in diet aligned with the increased rate of iron and folate deficiencies, causing anemia [35]. In the research done on the diets of Canadian Baffin Island Inuit community, traditional diet that contained 30-40% of the energy was less consumed by younger people, so the comparison was made easily between the part of the population that had a traditional diet and the other that had a market-source diet [36]. It was found that traditional diet contained higher density of all nutrients (proteins, vitamins, and minerals) except calcium and vitamin A. The indigenous communities Canada and north America especially suffer from the dietary shifts, relating to a greater increase in obesity, diabetes, and cardiovascular diseases (heart failure) [35].

This highlights the need for environmental health interventions that calls for a balance between reducing mercury exposure and preserving cultural values and dietary needs [16,15]. Conventions like the global Minamata Conventions have been held to prevent mercury effects on humans by banning mercury mining, minimizing gold mining, and monitoring mercury emission in the air [34].

Mercury Detection in Hair

Mercury exposure can be detected in human hair by analyzing segments of hair strands that incorporate exposure levels and history [25]. Because the mercury level in hair is directly

proportional to that in the brain and blood, hair analysis is a reliable indicator of mercury concentration in the blood [37].

The mercury detected in hair primarily consists of methylmercury, which binds to sulfur-containing amino acids like cysteine during hair formation. Mercury binds to the cysteine in hair due to its high affinity for sulfur atoms, which are abundant in keratin, the protein that makes up hair [26]. The methylmercury-cysteine bonds are stable chemical bonds that do not easily fall apart. During hair growth, methylmercury in the bloodstream moves into the hair follicle and becomes incorporated into the keratin. This binding creates the methylmercury-cysteine complex, that is detectable even after hair growth is complete [25].

X-ray absorption spectroscopy

Once, the mercury has been incorporated into human hair by methylmercury-cysteine complex, it can be detected by X-ray absorption spectroscopy (XAS): a technique used to study the chemical and structural properties of materials by measuring how they absorb X-rays. In this process, X-rays interact with the mercury-cysteine complex in a hair sample, transferring energy to the electrons on the mercury molecules (Figure 8). When the X-ray energy level is strong enough, the electrons are ejected and forms a scattering pattern. These patterns are recorded on a

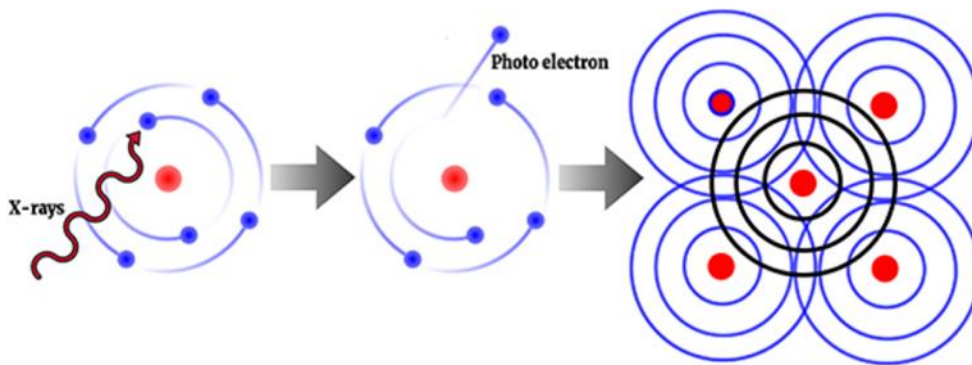


Figure 8. Mechanism of the photoelectric effect showing X-ray-induced electron ejection in X-ray absorption spectroscopy ³⁸

digital graph called X-ray absorption spectrum that reveal details about the distances between atoms, their coordination, and the type of chemical bonds present, indicating the presence and the amount of mercury in the hair sample [25].

Consequences

Mercury toxicity can lead to severe motor dysfunction due to its effect on the nervous system in the human body, affecting a range of voluntary and involuntary muscle movements [1]. One of the most debilitating symptoms is cerebellar ataxia: a lack of coordination in voluntary muscle movements that causes impaired balance, difficulty walking, and challenges in executing precise movements. Individuals suffering from mercury toxicity often display gait instability, which involves an unsteady or uneven walking pattern that can severely impair mobility [1]. Tremors, involuntary or uncontrollable shakings of one or more parts of the body, are a common sign of mercury poisoning. These tremors typically affect the hands and arms but can spread to other body parts as the toxicity progresses [6]. Myoclonus, sudden, involuntary muscle jerks, may also appear, due to further impaired motor control. Additionally, dysarthria, slurred or slow speech due to poor muscle control, is another significant symptom that reflects mercury's impact on motor functions associated with speech production [1]. These motor dysfunctions are caused by neurotoxic effects of mercury on specialized cells in the cerebellum (a part of the brain located at the back of the skull), called granule cells, which play a critical role in coordinating movement. Mercury exposure disrupts these cells' function, which impairs the neural circuits that control physical activities that require coordination. Over prolonged exposure, the increasing damage can lead to the degeneration of these neural pathways, intensifying aforementioned symptoms: tremors, limb incoordination, and gait abnormalities [1].

Minamata

One of the most prominent examples of mercury-induced motor dysfunction is Minamata disease, named after a severe outbreak of mercury poisoning in Minamata, Japan, during the 1950s [1]. The discharge of industrial waste containing mercuric sulfate was released into the sea and the Agano River by the Chisso Corporation in Minamata and the Showa Denko Company in Niigata. During the 1960s, people that lived by the Minamata bay had similarities in their symptoms that were suspected to be linked to the consumption of contaminated fish. The patients reported difficulties in sight and hearing, numbness, and uncontrollable movements, which all related to neurological dysfunctions [39]. Years of investigation led to a conclusion that the methylmercury accumulation in the bay from 1932 to 1968 was caused by waste discharge from the Chisso Corporation, a chemical plant. Bacteria in the sediment converted the mercuric sulfate into methylmercury (MeHg), which then accumulated in fish, leading to widespread mercury poisoning from the consumption of contaminated seafood. Minamata disease is associated with profound motor dysfunction, often beginning with ataxia (inability to control small movements) and progressing to severe neurological impairment. Autopsies and MRI scans of people with Minamata disease show damage on both sides of the brain, especially in areas that control thinking and movement. [1, 39].

Mercury and Mental Health

Mercury poisoning not only leads to motor dysfunction but also has a profound impact on mental health and cognitive function. Depression, irritability, and anxiety are commonly observed, as mercury disrupts neurochemical processes involved in mood regulation and emotional stability [4]. In addition, exposure to mercury can lead to significant cognitive impairments, such as confusion, memory loss, and difficulties in processing information, which hinder individuals'

ability to make decisions and perform everyday tasks. In more severe cases, mercury toxicity can result in dementia-like symptoms [4]. This set of neuropsychological symptoms, called "erethism mercurialis," includes symptoms like tremors, irritability, and memory difficulties, which can severely disrupt both mental health and cognitive abilities. These symptoms do not depend on the route of mercury exposure, whether inhalation or injection, and underscore the far-reaching effects of mercury on the brain and behavior [11]. Mercury poisoning can also occur when someone is exposed to elemental mercury. For example, individuals in a study who were exposed to mercury in an industrial accident reported a high prevalence of irritability, restlessness, and insomnia [11].

Conclusion

This review examined mercury poisoning's effects on brain anatomy, focusing on its cellular mechanisms, neurological consequences, and method of detection. Two methods of mercury effect on the human physiology were discussed: calcium signaling and protein degradation. Like many diseases and toxic materials, mercury's effect is specific to certain molecules in the human body and such specification can be highly toxic, leading to motor dysfunction, cognitive decline, and psychological symptoms. Its accumulation in brain regions highlights the need for effective monitoring, especially in communities at higher risk due to dietary or environmental exposure. Future research should explore long-term health effects, genetic susceptibilities, and potential treatments to mitigate neurotoxicity. Advancing detection methods and preventive measures will be key to protecting vulnerable populations and improving public health outcomes.

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Philosophy and Religion 1

Rafael Castillo-Grynberg
Montgomery College
Mentor: Professor David Carter

Title: “Good Architecture Matters”

Judge’s comments: Rafael Castillo-Grynberg’s paper made a strong case for the claim that we need to put more effort and consideration into the aesthetic quality of our built environments. His use of images to demonstrate his points was particularly effective. I was struck by the thoughtfulness that he put into thinking about the central importance of beauty in living a good human life.

Dr. Keith McPartland

Good Architecture Matters

Many societies around the world have adopted numbers and cold logic as their guiding principles for development to great success. Through these systems though, we run the risk of losing our humanity: becoming a statistic, a number on a spreadsheet. The business of numbers is tricky; it is concerned with maximizing some numbers and minimizing others, but which and to what end is sometimes unclear. Nevertheless, our society creates homes and neighborhoods for us statistics, and the numbers promise that they will be enough. I argue that we are not statistics, and that the numbers are greatly misinformed. They have created soulless, toxic, and discordant urban ensembles. Architecture, like many other social fields, has been perverted by the numbers to the extent that it has transformed into something that is decidedly not architecture as I will explore in this paper. Further, I claim that the many neglected aspects of this so-called architecture are vital for our well-being as a society.

Over time, we have seen a gradual increase in architectural discord and ugliness within our urban environments. Buildings focused primarily on economy and efficiency are being built in mass in response to immediate needs (Zotic and Alexandru, 129). Furthermore, lack of space and coordination have spawned ‘urban chaos,’ where there is a clear dissonance between architectural patterns in the same urban area (Zotic and Alexandru, 137-138). These issues have created a “lower standard of living, lower comfort level, poor public facilities, lack of green and recreational spaces,” and a “high level of agglomeration. (Zotic and Alexandru, 140)” Our psychological needs of “contact with others, opportunities for voluntary isolation, and exposure to different experiences” are not given much consideration in the building code (Gehl, 169). Poor quality housing and neighborhood design are associated with obesity, cognitive impairment, depression, anxiety, and psychological distress (Wells, 128, 131, 133). Lack of green spaces in urban planning is also associated with higher levels of crime (Sullivan, 355). Overall, this emerging style of urbanization

and design has created a poorer quality of life, with disproportionate impacts on those who are already economically disadvantaged and cannot afford a better place. The failure of this modern architecture might be answered by looking to the past.

An obsession with good architecture can be observed in many great societies throughout history. In Ancient Greece, there was a heavy emphasis on mathematical proportion, stylistic unity, optical adjustments, and quality art within temples. This was in part due to their humanistic philosophy, which saw humankind as perfection, and the center of the universe. Thus, their humanistic architecture reflected human proportion and emphasized the human experience of a structure. The Roman architect Vitruvius drew great inspiration from these works when composing his “Ten Books of Architecture,” a collection of works that identifies and explores his rules for successful architecture. A critical postulate found in Vitruvius’ work is “The Vitruvian Triad,” a collection of three elements: *Firmitas*, *Utilitas*, and *Venustas*, which he claims should be accounted for in any architectural work. Vitruvius’ influence on architecture cannot be overstated: the Vitruvian triad has been central in countless discussions surrounding architecture and serves as foundational principles in architectural education.

Firmitas, defined as strength or durability, is a building's ability to remain intact through time. It “arises from carrying down the foundations to a good solid bottom, and from making a proper choice of materials without parsimony. (Vitruvius)” The structure determines the longevity of a building, and its ability to shelter humanity from the elements. Its success can be tangibly measured through the lives it saves through natural disasters, and the general lifecycle cost of a building. Its value lies in forgoing the need to reconstruct it after structural failure, whether caused by a natural disaster or the passing of time.

Utilitas, defined as utility or usefulness, is a building's ability to fulfill a need. It “arises from a judicious distribution of the parts, so that their purposes be duly answered, and that each have its proper situation (Vitruvius).” Rationally organized and proportioned interior spaces with obvious pathways allow for things to be done efficiently, saving time and frustration. Further, certain design elements can purposely invoke emotion, and a successful building will appropriately implement said elements (Zotic and Alexandru, 133). For example, a space meant to make people feel comfortable should bring in as much natural sunlight as possible. The value of utility can be quantified primarily through time saved. A thoughtless layout will lead to inefficiencies and an underlying frustration which further impacts productivity.

Finally, Venustas, defined as beauty or delight, is a building's ability to make us experience truth and/or goodness. According to Vitruvius, it “is produced by the pleasing appearance and good taste of the whole, and by the dimensions of all the parts being duly proportioned to each other.” By his description, beauty is inherent in the quality and cohesiveness of the building. This cohesiveness creates or mimics a pattern and materializes it physically, creating and/or emphasizing a ‘truth’ about the world, and thus producing beauty. It can be achieved through stylistic consistency, having different elements working to create a singular effect, and blending firmitas and utilitas so that they are indistinguishable or inseparable from each other (Zotic and Alexandru, 131).

Of the three aspects of the Vitruvian triad beauty is the least tangible. It is a direct, ineffable experience which can only be diluted through channels of conscious thought and conceptualization. As such its value is impossible to quantify, but it is nevertheless a vital component of the triad, being its most foundationally human aspect. As McGilchrist put it, “Emotion and the body are at the irreducible core of experience: they are not there merely to help out with cognition... Feeling came, and comes, first, and reason emerged from it (185).” Rationality alone cannot comprehend humanity past what we can do and what we can provide. It cannot see past the value tangible value we bring,

and so for simplicity, it turns us into a statistic, but we are far more than that. We are complex sentient organisms: the amalgamation of our lived experiences, and the whole of our minds (how we process and interpret those experiences).

When humanity creates anything at all, that creation becomes more than just a reflection of our minds. It escapes our minds, becoming a part of what we consider reality. Thus, it will begin to affect us with the same immediacy and potency that other real things do. In this way, we are what we create, and we create what we are. Therefore, the architecture of our minds reflects in the physical architecture of the world, which in turn informs our thoughts and behaviors. As highlighted eloquently by Archer, “built space becomes the reference system within which knowledge is produced and applied, the physical forms according to which people establish and discipline their lives. Built spaces both ‘shape the dispositions constituting social identity’ and naturalize those dispositions within society (431).” While a building cannot force somebody to behave differently or think in a certain way, it can bring ideas into the conscious and unconscious mind, influencing our basis for what is considered true, or good.

Many of our modern buildings fail to be architecture because they do not attend to all the elements of the Vitruvian triad – their authors confused producing the bare minimum with maximizing efficiency. *Venustas* is ignored, and *Utilitas* is corrupted - serving the developer to gain wealth more so than the tenant to have a functional home. Through its inhumanness one loses their “ability to relate to and place oneself in one's surroundings,” creating psychological distress and a loss of identity (Seidel 246). Creating shelters which fail to meet basic human needs rather than homes may be more cost-efficient in the short term but will result in long-term consequences for the efficiency and wellbeing of our society. The distinct lack of *Venustas* in the modern day, and its consequences, highlight the critical role each element of the triad plays in creating successful architecture.

A structure cannot be considered architecture without including each of the Vitruvian aspects. Removing *Venustas* turns architecture into just a shelter, which fails to address our individual psychological and spiritual needs. Removing *Utilitas* turns architecture into sculpture, by which our practical needs would be unmet. Removing *Firmitas* simply turns architecture into rubble. Good architecture, on the one hand, is found in the quality of each of these components. However, if a structure can be considered architecture, the acknowledgement of one component implies the existence of the others. Truly good architecture, then, does not stem from any one component, rather it is born from the way each is integrated and unified with the other.

We should not scorn or neglect beauty, as beauty in itself promises that there is an inherent meaning and value to existence; things may be beautiful and enjoyable while devoid of rational purpose. Relief sculptures, pilasters, and paintings all show the humanity of architecture. By their very existence they bring us joy; reaching past the cold logic in which we have become so entrenched and tapping into the core of what makes us human. The built environment shapes who we are, and how we live our lives. It is a vision, if not a promise, of who we are as a people and what we will achieve. It reflects what is believed and valued by a society, and what is not. If our architecture is conceived without empathy, consideration, or unity, those sentiments will reflect on us. If our society shows us that our humanity is not valued, we may begin to lose it. Good architecture matters, and good architecture does not compromise our physical, mental, or spiritual health.

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Psychology II

Elena Shengelia

Borough of Manhattan Community College

Mentor: Professor Jamie Joseph

Title: “Systemic Review: Disentangling Pediatric Bipolar Disorder and ADHD”

Judge’s comments: Elene synthesized research from over 75 peer-reviewed studies to provide a comprehensive and methodologically rigorous review of the literature on attention deficit hyperactivity disorder (ADHD) and bipolar disorder (BD). She does a wonderful job in discussing a wide range of topics including genetics, environmental risk factors, pharmacology, and neuroscience to help inform us about the nuanced complexities of these disorders.

In short, Elene was able to successfully describe the real-world diagnostic and intervention challenges that clinicians face in pediatric mental health. I applaud the clear and concise nature of her research

Dr. David Chun

Systematic review of key considerations to disentangle pediatric bipolar disorder from attention deficit hyperactivity disorder

Abstract

Because attention-deficit/hyperactivity disorder (ADHD) and bipolar disorder (BD) present with overlapping symptoms, differential diagnosis before adulthood is challenging. This systematic review examined several factors associated with ADHD and BD as well as primary current treatments based on PRISMA guidelines. The search strategy yielded 78 eligible studies focused on the etiology and treatment of ADHD and BD while examining methylphenidate and lamotrigine as pharmacological interventions.

The prevalence of comorbidity between BD and ADHD is high, 25-45% of adults with BD also meet ADHD criteria. Adverse childhood experiences (ACEs) are associated with an earlier onset of BD and increased severity of ADHD symptoms. Beyond ACEs, genetic factors play a critical role, with heritability estimates suggesting that genetic risk can be a primary determining factor of developing ADHD or BD. Lastly, intervention nonresponse is a valuable, yet inconsistent, distinguishing factor.

These findings suggest the need to adopt a dimensional approach for the interplay of environmental and genetic factors in BD and ADHD. Dialectical Behavior Therapy (DBT) is a promising psychological intervention for children exhibiting characteristics of BD and ADHD. Adapting DBT techniques could improve long-term prognosis and minimize adverse effects of methylphenidate in misdiagnosed BD subpopulations.

Keywords: ADHD bipolar disorder overlap, attention deficit disorder, pediatric ADHD, pediatric bipolar disorder, pediatric mood disorders

1. Introduction

Bipolar disorder (BD) and attention-deficit /hyperactivity disorder (ADHD) developed in parallel as distinct psychiatric conditions. However, BD and ADHD are challenging for differential diagnosis due to overlapping phenotypes, etiological factors, and variable long-term prognosis.

BD is traced to ancient times, with Hippocrates and Aretaeus of Cappadocia postulating states of melancholia and mania as distinct moods (Mason et al., 2016).

Jean-Pierre Falret introduced "folie circulaire" during the 19th century, a cyclic disorder alternating between depression, mania, and intervals between these states. Later, Jules Baillarger

described "folie à double forme", alternating between mania and melancholia without necessarily having intervals (Mason et al., 2016). These characterizations laid the foundation for the modern view of BD. Emil Kraepelin's "manic-depressive insanity" from late 19th century was broader than the current diagnostic criteria for BD and encompassed the full spectrum of mood dysfunction (Mason et al., 2016). "Bipolar" for manic-depressive illness was introduced in the 1950s and BD was first included as a DSM-III diagnosis in 1980 (Mason et al., 2016).

Currently, BD is characterized by alternating episodes of mania and/or hypomania followed by periods of lower mood or depression with two major subtypes, bipolar I and bipolar II (DSM-V-TR). For bipolar I, one manic episode of abnormally elevated mood and increased goal-directed behavior, inflated self-esteem, decreased need for sleep, and increased talkativeness for at least a week is required and may be characterized by rapid cycling between manic, euthymic, and mild depressive states. Bipolar II requires at least one hypomanic and one major depressive episode. Severe depressive episodes are prominent in the course of bipolar II disorder over bipolar I.

Before the latter half of the 20th century, clinicians focused on children who were shy, withdrawn, and nervous compared with extraverted, hyperactive, and impulsive (Smith, 2014). Therefore, the historical progression of ADHD as a psychiatric diagnosis is considerably shorter than BD. Formal characterization of ADHD began in the mid-19th century with Heinrich Hoffman's description of ADHD-like symptoms in his children's book (Wolraich et al., 2019). In the 1980s, the primary focus shifted from hyperactivity to inattention, leading to the DSM-III-R name change as attention-deficit/hyperactivity disorder. ADHD was further categorized into distinct presentations for DSM-IV: 1) inattentive, 2) hyperactive/impulsive, and 3) combined (Wolraich et al., 2019). Now, ADHD is defined as a persistent pattern of inattention and/or hyperactivity-impulsivity interfering with everyday functioning for at least six months. Prominent symptoms that overlap with BD include difficulty sustaining attention, disorganization, fidgeting, and impulsive behavior (DSM-V-TR). Although ADHD is typically confirmed before the age of twelve, there are consistent reports estimating up to 75% of adults experiencing ADHD without diagnosis or treatment during childhood (Abdelnour et al., 2022).

Despite distinct criteria for ADHD and BD, correct diagnosis is complicated by a high comorbidity - 25-45% of adults with BD meet the criteria for ADHD (McIntyre et al., 2020) and 20% vice versa (Salvi et al., 2021). Approximately 70–90% BD patients have comorbid generalized anxiety disorder, social anxiety disorder, or panic disorder (McIntyre et al., 2020). In ADHD, anxiety disorders are common with lower, yet prominent, rates: 25% to 50% (D'Agati et al., 2019).

The high lifetime prevalence of psychotic symptoms is 63% and 22% for bipolar I and II, respectively (Aminoff et al., 2022), with significantly lower prevalence in ADHD – 0.7% to 12.5% (Toba-Oluboka & Dempster, 2024).

Overlapping symptomatology such as mood fluctuations, impulsivity, and difficulties with focus and organization, along with prodromal depression and anxiety, make it challenging for clinicians to correctly diagnose patients, especially children and adolescents. ADHD and BD misdiagnosis can lead to improper treatment strategies, with potential symptom exacerbations resulting in poorer everyday functional outcomes and long-term prognosis. This systematic review examines and highlights common symptoms, risks, environmental and genetic factors, and treatments for proposing novel extensions of current reports for clinical research inquiry.

2. Methods

2.1 Article search strategy

I adhered to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines with exceptions noted below. Peer-reviewed articles were obtained from PsycINFO on November 18, 2024. Searches were filtered by English language, human subjects, January 2019-October 2024 (five-year period), and diagnostic confirmation via structured clinical interview.

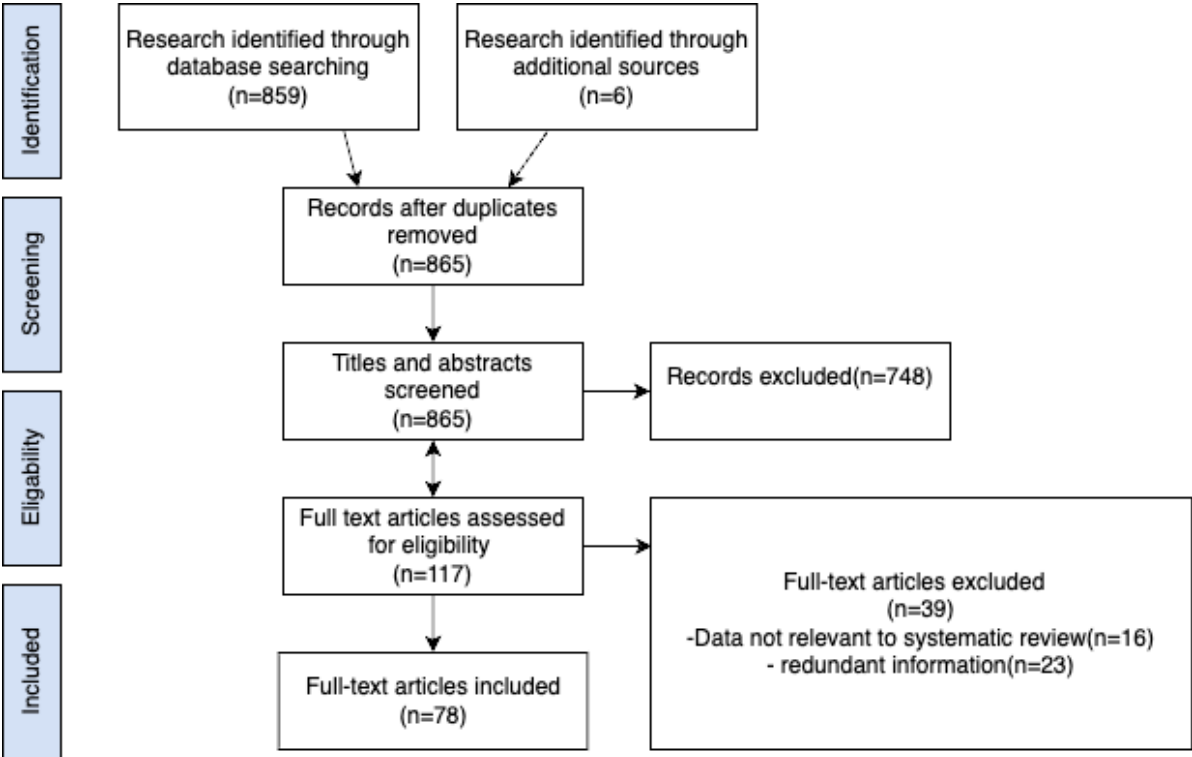
To focus on the primary etiology of ADHD and BD, a review of adverse childhood experiences, followed by primary genetic and prenatal risk factors, were considered, especially for children aged 18 years or younger. Although multiple psychotropic medications are prescribed for BD and ADHD, I limited my review to methylphenidate and lamotrigine, the most commonly prescribed medications for childhood ADHD and BD, respectively.

Precise search term combinations with respective article yields are noted in Appendix A.

2.2 Final article selection and flowchart

I deleted all duplicates. Then, I reviewed all titles and abstracts for all retrieved records. combined, this reduced the final articles for review by 748, yielding 78 articles eligible for systematic review.

Figure 1. Flowchart diagram for systematic review



3. Results

3.1 Adverse childhood experiences

Adverse childhood experiences (ACEs) are stressful or traumatic events that occur before the age of 18 with long-lasting impacts on mental health and general wellbeing across the lifespan (Sahle et al., 2021). ACEs include emotional or physical child neglect, child abuse, (including emotional, physical, and sexual abuse), household dysfunction such as mental illness, criminal activity, domestic violence, substance use, and parental absence – (Gu et al., 2022) and bullying involvement (Baiden et al., 2020). ACEs are highly prevalent globally, with 60% and 40% of adults in the US and worldwide, respectively, having at least one ACE (Sahle et al., 2021). After accounting for age and gender, ACEs are linked to a two-fold risk for experiencing anxiety, depression, other internalizing disorders, and suicide. A consistent dose-response relationship is present between ACEs and poor mental health prognosis (Dánielsdóttir et al., 2024). National samples of children and adolescents exposed to five or more ACEs had an 8.75-fold risk of depression symptoms (Elmore et al., 2020)

3.1.1. ACEs and ADHD

ACEs are positively correlated with ADHD diagnosis. Walker et al. (2021) found that children with one, two, or three ACEs had 1.39, 1.92, and 2.72 fold greater risk of ADHD, respectively. The two adverse childhood experiences most closely associated with ADHD are 1) lived with an individual with a mental illness, and 2) a incarcerated parent/guardian (Walker et al., 2021). These ACEs co-occur with elevated genetic risk. Lastly, ACEs in children with ADHD are associated with a higher neurite density index relative to typically developing children (Hare et al. 2022).

3.1.2. ACEs and BD

ACEs are significant for the onset, symptomatology, and treatment response in BD. Individuals with ACEs have an earlier age of BD onset (15-18 years) compared with no ACEs (17-22 years) and ACEs exposure was linked to an 11% higher likelihood for rapid cycling in BD (Yao et al., 2023). Higher dose of ACEs predicted poorer treatment response relative to BD patients with no ACEs (Gu et al., 2022). ACEs with the strongest association to BD included living with an individual with mental illness and emotional abuse. Additional associations include emotional neglect, violence, and bullying (Köhler-Forsberg et al., 2024). Specifically, bullying victimization correlates with higher number of suicidal behaviors and increased psychotic symptoms (Manoli et

al., 2023).

3.2 Family history/genetic risk

Genetic factors contribute to the etiology of ADHD and BD with high heritability rates, relative to most other psychological disorders. For ADHD, heritability varies by age, approximately 75% and 50% across the lifespan (Brikell et al., 2019). Heritability remains high at 74% from parent/caregiver or teacher (Faraone et al., 2019) while self-report estimates are significantly lower, 34-55% and 30-44% in adolescents and adults, respectively (Brikell et al., 2019). The heritability of BD is approximately 70% across studies (McIntyre et al., 2020), with some twin study estimates up to 85% (Fabbri, 2021). Transdiagnostic analysis with case-control variation is recommended for greater emphasis on shared genetic architecture.

3.2.1 Genetic liability for ADHD

Elucidating genetic contributions to ADHD are crucial for insight into underlying mechanisms and relationships with other psychiatric conditions, including BD. Key genes associated with ADHD include those related to dopamine regulation, particularly DRD4, DRD5, DAT1, followed by serotonin 5HTT, HTR1B, and a synaptic vesicle protein SNAP25 (Faraone et al., 2019).

Moreover, studies have implicated several copy number variations (CNVs). Primary CNVs include PRLHR deletions, 2q11.2 duplications, and 16p11.2 duplications (Glessner et al., 2023). Duplications on chromosome 7p15.2-15.3 are also reported (Faraone et al., 2019). Recent genome-wide association studies (GWAS) identified multiple independent loci associated with ADHD. In 19,099 ADHD cases and 34,194 controls, polygenic risk scores (PRS) were correlated with reaction time variability (RTV), suggesting common genetic variants influencing ADHD also impact attention regulation. However, no significant association between ADHD PRS and commission errors (CE) was present, indicating specific cognitive domains may be affected (Vainieri et al., 2021). Therefore, replication and comparable endophenotypes studies are required to confirm effects.

The genetic influence of ADHD extends beyond cognitive impairments to interaction with treatment responses. A study investigating the efficacy of medications for ADHD found no significant relationship between polygenic risk score and methylphenidate or atomoxetine treatment response (Zhong et al., 2020). Additional studies indicate norepinephrine transporter and astrocyte genes may be linked to cortical thickness differences observed in adults with ADHD. However, this study did not identify any genotype by methylphenidate treatment

response interaction for cortical thickness (Parlati et al., 2024). It is important to note that this last study did not confirm ADHD diagnosis in adulthood, thereby limiting generalizability.

3.2.2 Genetic liability for BD

Key genes implicated in BD include CACNA1C, SCN2A, and SLC4A1 (genes that code ion channels and transporters), synaptic components such as ANK3 and RIMS1, and neurotransmitter receptors such as GRIN2A. TRANK1 and NCAN loci associations are also significant (Stahl et al., 2019). Based on BD family investigation, polygenic risk scores were significantly higher in both parents and children with BD in comparison with matched controls. In addition, offspring of BD parents were more likely to develop BD (23%) or depression (50.2%) compared with the offspring of individuals without BD - 5.1% BD, and 32.9% depression (Birmaher et al., 2022).

Stapp et al. (2023) conducted a BD family study - two-thirds of the children who came from well-functioning family environments had a higher BD polygenic risk score (PRS), thereby increasing risk for developing BD. In high-conflict family environments, lower BD PRS was associated with later BD onset. Although this study was limited to European ancestry, these findings align with the general consensus that genetic factors can outweigh salient environmental stressors for global disorder risk.

Across all adolescents and young adults aged 13-20 years, diagnosed with BD or comparison subjects, lower connectivity in the salience network and higher connectivity in the frontoparietal network were linked to higher genetic risk. For youth with BD, higher genetic risk correlated with stronger connections in the default mode network and changes in the connections between the visual network with other brain regions (Jiang et al., 2023).

3.3 Prenatal risk

Prenatal risk refers to the increased risk of developing a mental disorder due to factors experienced by the mother during pregnancy, important considerations for BD and ADHD.

3.3.1 Prenatal risk associated with ADHD

Higher BMI and maternal diabetes were both associated with a 55-65% increase in risk of ADHD (Cochran et al., 2022). A meta-analysis found no association between light, medium, or heavy prenatal alcohol exposure and ADHD (Mitchell et al., 2020). A systematic review and meta-analysis found a significant correlation between prenatal stress and an increased risk for ADHD (Manzari et al., 2019). Maternal infection during pregnancy was associated with a small but statistically significant increase in ADHD diagnosis in the offspring (Zhu et al., 2022).

3.3.2 Prenatal risk associated with BD

Similarly to ADHD, multiple prenatal factors have been linked to an increased risk of BD in the offspring. A systematic review of observational studies detailing the association between pre/perinatal risk factors and BD found that peripartum asphyxia, maternal stress, and insufficient birth weight (Shintani et al., 2023) as well as, prenatal infections and inadequate weight gain (Pugliese et al., 2019) have a significant association with an increased risk for BD in offspring. This supplemented with an individual report – of pregnant women previously diagnosed with BD, 54.9% had a mood episode during the perinatal period (Masters et al., 2024). However, it remains to be determined if the perinatal mood directly impacts the genetic and/or non-genetic risk factors in offspring.

3.4 Pharmacological interventions for ADHD and BD

Pharmacological interventions play a crucial role in the management of ADHD and BD in children. Methylphenidate is the primary medication prescribed for ADHD in children and adults. While lithium is considered the primary psychotropic intervention for BD treatment refractory patients, it is not recommended for children due to gastrointestinal symptoms, tremors, polyuria, polydipsia, enuresis, and risk for hypothyroidism (Salazar et al., 2024). Therefore, lamotrigine has gained attention for its effectiveness in stabilizing mood for pediatric populations.

3.4.1 Methylphenidate and ADHD

Methylphenidate (MPH) is the primary drug to treat ADHD in children over six years. Classified as a CNS stimulant, MPH's primary mechanism of action involves the inhibition of dopamine and norepinephrine reuptake by presynaptic neurons while inhibiting their transport, thereby increasing the concentration of dopamine and norepinephrine in the synaptic cleft. MPH is effective in addressing the core symptoms of ADHD, which include inattention, hyperactivity, and impulsivity (Verghese et al., 2019). MPH significantly reduces these symptoms, with higher doses yielding better symptom control. Most children responded positively to increasing doses of MPH, with 73-88% showing a linear dose-response relationship (Vertessen et al., 2024). Methylphenidate is widely prescribed in the United States as a first-line treatment with psychoeducation for ADHD. However, in some countries, MPH is restricted to more severe cases with significant cognitive/attention concerns or carefully monitored alongside behavioral therapies due to potential adverse effects (Vertessen et al., 2024) including insomnia, nervousness, reduced height, weight, and bone marrow density, and sudden

death for people with pre-existing structural cardiac abnormalities (Verghese et al., 2019).

Not every patient responds to methylphenidate - responders and non-responders may have distinct brain phenotypes. Methylphenidate responders exhibited specific electroencephalography (EEG) patterns compared with non-responders. Non-responders displayed atypical flat aperiodic spectral slopes, suggesting neural signatures may predict children less likely to benefit from MPH treatment (Arnett et al., 2022). Additional reports indicate non-responders have smaller cortical volume across the left temporo-parietal-insular regions and the right orbitofrontal cortex compared with responders.

Furthermore, non-responders had significantly lower cortical surface area in regions partially overlapping with different cortical volume, including the right frontoparietal and temporal regions. No significant differences in cortical thickness were observed between responders and non-responders (Parlatini et al., 2024). However, it is important to consider that some studies do not have a confirmed diagnosis of ADHD. This may result in inaccurate generalizations about the structural differences between responders and non-responders.

3.4.2 Lamotrigine and BD

Lamotrigine selectively binds to and inhibits voltage-gated sodium channels, which stabilizes presynaptic neuronal membrane and inhibits presynaptic glutamate and aspartate release (Betchel et al., 2023). A systematic review examining seven adolescent BD studies found that lamotrigine was an effective, safe, and well tolerated for BD with no major side effects (Kumar et al., 2023).

3.5 Psychological interventions for ADHD and BD

I focused on 1) psychoeducation, 2) social skills training, 3) emotion regulation and cognitive restructuring, and 4) dialectical behavioral therapy as all are expected to be beneficial across ADHD and BD populations.

3.5.1 Psychoeducation

Psychoeducation has provided knowledge about disorders and their treatments with the goal of better collaboration among clinicians, patients, and families for improved outcomes since the early 20th century (Sarkhel et al., 2020).

Psychoeducation can lead to moderate to large improvements in ADHD symptoms, $g = 0.787$ as reported by parents and teachers while enhancing parent/teacher ($g = 1.037$) and child ($g = 0.721$) knowledge about ADHD (Dahl et al., 2020). A systematic review of 10 studies involving 943

participants demonstrated psychoeducation improves social skills in young people with ADHD, with small effect sizes (Powell et al., 2020). Psychoeducation was also effective for reducing inattention and total ADHD symptoms compared with treatment as usual (TAU) and maintained at six-month follow-up (Ferrin et al., 2020). While the effects on parenting stress and quality of life were small to negligible, psychoeducation appears to be a promising approach for improving ADHD symptoms, behavioral problems, and treatment adherence, likely due to increased knowledge and understanding of ADHD.

Psychoeducation has demonstrated significant benefits for individuals with BD as well. A comprehensive review of 70 randomized controlled trials reports psychoeducation leads to a decrease in relapses, mood episodes, and hospitalizations, with concurrent improvements in functioning and quality of life (Levrat et al, 2024). Individual controlled trials have also reported significantly longer period free from hospitalizations over a four-year follow-up period with 21 weeks of psychoeducation in comparison with TAU (Buizza et al, 2019). Online psychoeducation is effective for overcoming barriers accessibility that impedes direct intervention (Fitriani et al., 2019).

3.5.2 Social Skills Training

Social skills training (SST) is a behavioral intervention to teach children to distinguish desirable and undesirable behaviors while improving their social competence with peers (Yizengaw, 2022). My search yielded no articles for social skills engagement and BD in children. As for ADHD, several studies have found contradictory results on the effectiveness of social skills training as an intervention producing favorable or significant improvements in social behaviors. A systematic review of 15 ADHD studies found moderate evidence that SST is effective for increasing play skills, reducing undesirable social behaviors such as inappropriate verbalizations and aggression, and improving pragmatic communication skills. Notably, these improvements were maintained at follow-up (Fox et al., 2020).

3.5.3 *Emotion regulation and cognitive restructuring*

In adults with BD and ADHD, the most common method of emotional regulation and cognitive restructuring is cognitive behavioral therapy (CBT). CBT is a form of psychological treatment that operates on the premise that mental disorders and psychological distress are influenced by cognitive factors, such as beliefs about oneself and the world. The primary aims of CBT include helping individuals identify, challenge, and change negative thought patterns, thereby replacing dysfunctional constructs with more adaptive cognitions. This structured approach not only

addresses emotional distress but also promotes effective coping strategies through techniques like cognitive restructuring, problem-solving, and affect regulation (Serafini et al., 2023). While there are modified protocols of CBT designed for children, Dialectical Behavior Therapy seems to be the better equivalent for the treatment of both ADHD and BD in children, especially with co-occurring self-harm.

3.5.4 Dialectical behavior therapy for children

Dialectical behavior therapy (DBT) is a treatment that targets mood liability, suicidal behaviors, and non-suicidal self-injury. Studies have shown that DBT can be effective in treating BD during adolescence. One study recruited adolescents aged 18-20 years with a diagnosis of bipolar spectrum disorder, randomly assigned to one year of DBT or standard-of-care (SOC) psychotherapy. DBT was delivered with a modified manual for adolescents with BP while SOC psychotherapy was conducted by therapists with experience treating youth with BD. DBT was significantly more effective than SOC psychotherapy in decreasing the participant's suicide attempts over a one-year period (Goldstein et al., 2024). Two adolescent studies reviewed DBT efficacy and effectiveness with significant improvements in depressive symptoms, suicidality, and emotion regulation with no significant changes in manic symptoms, non-suicidal self-injury, or interpersonal functioning (Jones et al., 2023).

The search with the above-specified filters did not yield any results for DBT as an intervention for children with ADHD. It may be that individuals who are diagnosed with ADHD without a comorbid mood disorder are less likely to be diagnosed with suicidal behaviors that actively warrant the implementation of DBT. This is evidenced by an inpatient study that reports ADHD symptoms co-occurred with suicide attempts only with concurrent mood disorders. No significant correlation was observed between ADHD symptoms independent of mood and suicide attempts or ideation (Forte et al., 2021). Notably, 20-60% of individuals diagnosed with BD attempt suicide at least once in their lifetime, and approximately 20% of those untreated commit suicide (Dome et al., 2019), with greater suicide risk associated with BDII (McIntyre et al., 2020). Therefore, it is a critical concern to confirm patients who are diagnosed with ADHD do not have co-occurring mood disorders, as this significantly elevates their risk for suicide.

3.6 Non-invasive Brain Stimulation

Non-invasive brain stimulation techniques relevant for the treatment of pediatric BD and ADHD are transcranial magnetic stimulation (TMS) and transcranial direct current stimulation

(tDCS).

3.6.1 *Transcranial magnetic stimulation*

Repeated transcranial magnetic stimulation (rTMS) has demonstrated preliminary, yet inconsistent, success as a BD intervention. A meta-analysis of 31 studies noted significant improvements for depressive symptoms after two weeks of rTMS compared with sham treatments (Konstantinou et al., 2022). Another meta-analysis of 14 clinical trials observed a higher response rate for high frequency rTMS over the left dorsolateral prefrontal cortex (DLPFC) compared with the sham treatment. (Nguyen et al., 2021). Regarding manic episodes, one study with 41 adult patients found significant improvements in manic symptoms after high frequency (20 Hz) rTMS over the right DLPFC. However, a follow-up study using the same protocol in adolescents did not demonstrate significant differences between rTMS and sham groups (Gold et al., 2019). TMS protocols may need to be modified to target manic symptoms in adolescents. The small sample sizes and limited data from adolescents severely impedes generalizability.

In ADHD, symptoms. a meta-analysis examined five studies that tested rTMS against a sham treatment for both adults and adolescents. TMS was generally safe and well-tolerated in children and adolescents. However, TMS did not produce any significant symptom improvement compared with sham treatment (Memon, 2021). The limited number of studies may mask the true benefits and drawbacks of repetitive TMS within the pediatric population.

3.6.2 *Transcranial direct current stimulation*

A triple-blinded, randomized, controlled, clinical trial across six international academic medical centers investigated the neurocognitive effects of tDCS in participants with unipolar or bipolar depression. The study, which included 130 randomized participants, indicated that tDCS treatment improved verbal learning and recall, selective attention, information processing speed, and working memory, independent of tDCS dosage. In addition, genetic factors (BDNF Val66Met Val/Val and COMT Val158Met Val/Val) interacted with the tDCS dose and affected verbal learning outcomes (McClintock et al., 2020). The varying cognitive assessments require study replication.

A systematic review of tDCS in bipolar depression analyzed 14 clinical studies with 207 pooled participants, a consistent, yet variable, reduction in depression scores after treatment was reported. For all studies, tDCS was significantly more effective than sham treatment with medium effect (D'Urso et al., 2023). Notably, the lack of studies enrolling adolescents diagnosed with BD limits the ability to generalize to the pediatric populations.

tDCS is promising for hyperactive symptoms present in ADHD. A study involving children and adolescents with ADHD observed a significant increase in effort maintenance for rewards during and after tDCS targeting ventromedial prefrontal cortex (VMPFC - anodal) and right DLPFC (cathodal) compared with sham stimulation (Vöckel et al., 2024). A systematic review conducted by Salehinejad et al. (2020) examined 14 empirical experiments investigating tDCS effects in ADHD. Significant partial improvement in response inhibition, working memory, attention, cognitive flexibility, impulsivity, and inattention was reported by 10 of the 14 studies. The left and right DLPFC are the most commonly targeted regions for tDCS in ADHD treatment, with anodal tDCS being the most frequently applied protocol. For this study, an intensity of 2 mA induced stronger electrical fields and was associated with significant behavioral changes in adults with ADHD. Interestingly, in children with ADHD, a lower intensity of 1 mA was sufficient to result in significant behavioral changes. No serious adverse effects were reported.

3.7 Prognosis

Individuals with untreated mental health conditions often face higher rates of underemployment, unstable employment, unemployment, and homelessness. For students, as anxiety, depression, and stress can hinder academic achievement, leading to lower grade point averages, increased dropout rates, and a diminished quality of life (Zhang, et al., 2024). Individuals with mental illness also have a 2 to 3.5 times higher rate of premature mortality, dying about 10-20 years earlier than the general population (De Mooij et al., 2019).

3.7.1 Prognosis for ADHD

Undiagnosed ADHD is associated with higher rates of depression, lower quality of life, increased risk of suicide, greater emotional difficulties, and anxiety (French et al., 2023). Students with unmedicated ADHD had significantly lower GPAs as compared with non-ADHD students Hedge's $g = -0.46$ to -0.63 over a four-year period. Only 49% of students with ADHD completed eight semesters, as compared with 59% of non-ADHD students (DuPaul et al., 2021). Scores on achievement test metrics are significantly lower for individuals with untreated ADHD compared with non-ADHD controls. After accounting for IQ score variation, 72% of the total achievement test performance metrics were lower for individuals with untreated ADHD (Arnold et al., 2020).

3.7.1 Prognosis for BD

Untreated BD is associated with lower educational attainment, decreased employment rates, and poorer socioeconomic functioning compared with the general population. According to a longitudinal study, patients with BD have 25%, 84%, 67%, 56%, and 46% lower odds of highest educational levels, current employment, top income quartile, cohabitating, and marriage, respectively. Furthermore, patients showed a substantially decreased ability to enhance their socioeconomic functioning during the 23-year follow-up compared with healthy controls (Sletved et al., 2023). A comparison of young and adult patients with BD reports significantly lower socioeconomic status and impaired functioning and cognition compared with healthy comparison subjects. Although younger BD patients were less functionally impaired, global cognitive impairment was similar across age cohorts (Coello et al., 2024).

4.0 Discussion

4.1 Summary

This review presents evidence for a complex relationship between BD and ADHD in the pediatric population. Concurrent with over 40 case studies reporting comorbid BD and ADHD within the past ten years, cohort and case-control trials indicate a significant percentage of patients with BD meet the criteria for ADHD and vice versa (McIntyre et al., 2020; Salvi et al., 2021). This underscores the ongoing diagnostic concerns that are not rectified with DSM-V-TR, our current iteration. While transdiagnostic investigations are invaluable for demonstrating key areas of overlap in adult BD, there has been less consideration for these approaches with children. The ADHD to BD conversion is more likely during adulthood (Li et al., 2024), as children frequently present with symptoms that lack diagnostic clarity. Although ADHD is routinely diagnosed by pediatricians while BD is typically diagnosed after psychiatry consultation, there is an imminent need for all healthcare providers to be vigilant of symptoms common to both disorders, including mood fluctuations, impulsivity, and difficulties with attention and organization.

Adverse childhood experiences (ACEs) and genetic liability remain significant risk factors influencing both ADHD and BD. ACEs lower the age of onset for BD and increase the likelihood for rapid cycling (Yao et al., 2023). ACEs are also linked to poorer outcomes for ADHD, especially with comorbid depression and suicidality. Heritability for ADHD and BD are high relative to many other polygenic psychiatric and medical disorders. While the precise genetic alterations vary, dysregulation of catecholamine and sodium ion transporter genes has been reported across BD and ADHD studies. This review highlights the importance of applying clinical transdiagnostic

approaches during childhood and adolescence, where common factors are linked to prognosis across different etiologies.

4.2 *Limitations/Key Considerations*

The main limitations of this systematic review are that all articles were published between January 2019 and October 2024. Our inclusion/exclusion criteria were designed to focus on the most recent literature, which may have excluded relevant and more comprehensive prior studies that could offer additional factors valuable for the diagnosis and treatment of ADHD and BD. Specifically, our search did not yield studies that investigate extreme food insecurity or poverty as potential ACEs. Also, our search terms and filters did not yield major maternal immune risk factors associated with BD and ADHD, that were reported in publications before 2019. Furthermore, while the main goal of this review was to focus on the etiology and treatment of these disorders in pediatric populations, there is a noticeable lack of studies enrolling children with BD - especially with a sample size large enough to generalize findings for pediatric populations.

4.3 *Future directions/conclusion*

Due to the complexity of the differential diagnosis of ADHD and BD and the possible adverse effects of methylphenidate in BD patients (Viktorin et al., 2017), research efforts should be directed at studying the integration of psychological interventions such as DBT, into the treatment plans for children presenting with both BD and ADHD symptoms. Since emotional dysregulation is characteristic of both disorders, adapting DBT techniques can be very effective for managing impulsivity and emotional instability. By focusing on beneficial psychological interventions child and early adolescent populations across disorders, followed by tailored drug regimens, clinicians can optimize therapeutic approaches and enhance the quality of life for children with ADHD and BD symptomatology without risking symptom exacerbation due to unclear diagnosis.

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Environmental Studies

Hannah Woo
Montgomery College
Mentor: Dr. Nathan Zook

Title: “Guardians of the Earth: Mythical Archetypes and Environmental Awareness”

Judge’s comments: Ms. Woo’s paper presented a novel critique of six beloved children’s movies - the combination of a cultural criticism approach with an environmental studies focus resulted in new ways of thinking about these classic films. Further, her central thesis about how these films transmit valuable messages regarding the importance of humans achieving balance with nature is incredibly relevant to the times we are living in.

Dr. Matthew Aiello-Lammens

Guardians of the Earth:

Mythical Archetypes and Environmental Awareness in Disney and Studio Ghibli Films

Disney and Studio Ghibli: two of the most influential and familiar animation studios globally, have made prevalent storytellers who charm their audiences with intricate animation, songs, plotlines, and more, especially with naturalistic elements. However, there's more to what's on the surface of the movies both of these studios present. Both movie studios present the dynamic between humanity and nature. They use mythical archetypes, like protective deities and trickster spirits, to help paint stories that show the importance of stewardship of the natural world. They often mirror with metaphors how ecological disasters are treated in the present time. Using their animation to draw out conversations about how the world can stay preserved.

The struggles and triumphs of characters we're familiar with actually serve as ecological challenges faced today. These films also teach us about what requires change and reflect on the audience's roles in learning how to coexist with the world around us properly. By using the symbols of mythical archetypes, these film studios can creatively convey and captivate audiences from around the world to come to a consensus about ecological disaster through human destruction, undrapping the sheer power natural elements harbor, and the consequential conquering-based relationship between humans and nature.

I. Theoretical Framework: Mythical Archetypes in Japanese and Greek Traditions

Mythical archetypes are universal symbols often used in stories to convey human desires, emotions, and experiences. Elemire Zolla, a philosopher who studied mythology and esotericism, argues in his article "Archetypes" (published in *The American Scholar*) that mythical archetypes are a tool to bridge the "human psyche and the external world" acting as metaphors for showcasing relationships between humans and the natural world (Zolla 192). By mythical archetypes

personifying lessons and emotions, stories can be more relatable to understand and help provide insight into human consciousness. Among many mythical archetypal stories, there are two kinds of archetypes: trickster spirits and protective deities. The role of trickster spirits embody unpredictability, transformation, and act as a lesson to teach people about the consequences of their actions (Foster). They're not necessarily good or evil and are solely tailored toward the hero's journey so their character can learn a significant life lesson. Compared to protective deities, they have the guardian role of protecting entire communities and maintaining balance in a world's order. These stories that have different kinds of archetypes, such as trickster spirits and protective deities, are passed down across generations, making archetypes harbor the universality to resonate with many eras, even in modern times. Expanding historically, traditional Japanese and Western storytelling, philosophies, traditions, and mythology play a significant role in understanding the themes and narratives using those archetypes. This relevance is highlighted in films by the infamous movie studios such as Studio Ghibli and Disney. Each studio's respective native cultural archetypes are seen through story plotlines, especially ones that involve the preservation of the natural world.

Japanese traditions often approach mythical storytelling through spiritual and ecological elements that highlight harmony and the sacredness of the natural world; therefore, showcasing the theme of protection and security of the natural world. Many of these portrayals are rooted in Shinto beliefs, a religion originating in Japan focused on reverence for nature and worshipping spiritual beings called Kami (Shinto). Kami can be revealed through mountains, rivers, trees, and other elements of nature to show the sacredness of Japan's natural world; serving as a lesson that nature, respectfully, demands respect.

Many Western traditions of mythical storytelling stem from Greek mythology and philosophical foundations from Plato's concept of ideals being the blueprint of phenomena in the physical world, and Aristotle's teleology beliefs (Rogerson). Typical storylines consist of the Hero

going through struggling events and rising victorious near the end, acting as a savior to the world from the evil Antagonist. Greek stories have incorporated those ideas to explore psychological and spiritual themes for self-uplifting and emotional growth.

When comparing Studio Ghibli's and Disney's films, decades of movies have revolved around the natural world and how their characters use their environment to endure trials to learn compelling life lessons. In addition, they also demonstrate human relationships with their surrounding environment depending on how those archetypes are illustrated. By analyzing the cultural foundations and traditions of the Japanese and the Greek, both movie studios incorporate trickster spirits and protective deities that reflect their separate native philosophies, but how frequently do mythical archetypes, such as trickster spirits and protective deities, appear in Studio Ghibli and Disney films, and how does each studio's portrayal of these archetypes influence messages about humanity's relationship with the natural world and real-world environmental attitudes? My thesis is that Studio Ghibli and Disney have a healthy amount of protective deities and trickster spirits in their films. Still, Disney caters to the hero's role in the natural world, and it is their job to restore harmony. The use of these archetypes is to influence a more traditional hero storyline to fulfill their duty and Disney frames natural conflict must be saved by a chosen hero. In contrast, Studio Ghibli creates a theme that all characters are responsible for restoring balance and coexistence with nature. This influences messages about humanity's relationship with the world by highlighting and encouraging their audiences to take personal initiative or collaborate to address ecological conflicts to start preserving what is left of Earth.

II. Qualitative Methodology Analysis

A part of this research study will use qualitative comparative analysis to explore how Studio Ghibli and Disney films depict humanity's relationship with the natural world through mythical archetypes. I will examine a selection of three movies from each studio, with a total of six overall,

that feature environmental and humanistic themes. After identifying the role of trickster spirits and protective deities, I will assess their relevance to the storyline and their influence on the development of the main characters and environments. What are the trickster spirits and protective deities telling us about how we treat our natural world?

The three movies chosen for Studio Ghibli will be *My Neighbor Totoro* (1988), *Princess Mononoke* (1997), and *Spirited Away* (2001). *My Neighbor Totoro* portrays themes of the coexistence of nature between humanity. The three Disney movies chosen will be *WALL-E* (2008), *Moana* (2016), and *Frozen II* (2019). These movies were selected based on environmental preservation, human conflict with nature, spiritual connections to nature, respect for nature, and restoration of harmony. It's important to note that the movies selected were not based on specific mythical archetypes illustrated, but on the prevalent environmental and humanistic themes that allow for a thorough analysis of trickster spirits and protective deities in their respective plotline. My research is a method of qualitative analysis of archetypes and narratives to understand the gap between Studio Ghibli and Disney films and ecological consciousness for the awakening of the potential of films being used to create awareness for sustainability and an eco-friendly future.

III. Data and Findings: Qualitative Comparative of Trickster Spirits and Protective Deities

My Neighbor Totoro (1988)

Hayao Miyazaki's *My Neighbor Totoro* explores the protective deity of Totoro, a large furry creature with whiskers and pointy ears who is the guardian of the forest. He provides physical and emotional protection for the two main characters, Satsuki and Mei, while they are dealing with their mother's long-term disease after moving houses to be closer to the hospital. Even as a silent creature, he has magical interventions to maintain balance and give guidance when problems arise. Totoro decided to reveal himself to the girls when they were emotionally stressed about their family,

and in doing so, he was able to connect them to stability and give them a present of wonder in a time of heartache. This can be symbolized in Shinto traditions as Kami (deities) representing a space between the spiritual and human world. In addition to Totoro's guardianship, Mei gets lost while she tries to look for her mother at the hospital, and her sister, Satsuki, fears for her sister's whereabouts. She asks Totoro for help and what he does is summon a sentient magical creature named Catbus for them to arrive at Mei's location.

These actions were catered toward the girls and their conflicts, which illustrates Totoro as a trickster spirit, but his protective nature extends as a guardian of the forest, embracing preservation and coexistence. This also proves his existence as a protective deity in the way he reveals himself to the Satsuki: through a rainstorm at a bus stop. Satsuki is waiting for her father's bus when Totoro is revealed to be next to her with a leaf acting as an umbrella. She gives him a real one as a replacement, and he accepts, which is the first sign of a bond of trust. Totoro's serene presence and how he indirectly nurtures Satsuki when he appears in a time of vulnerability for her, as waiting for her father's arrival and the storm is a reflection of the emotional disturbance she's facing. Serendipitously and playfully, there's a scene in the movie where Mei stumbles across the forest and finds Totoro sleeping in the hollow of a tree. Discovering Totoro in a calming state as well as revealing how his connection with the tree reinforces how spiritual he is with the inhabitants of the forest. This is a sacred symbol in Shintoism, especially because of how naturally he fits in with the forest, symbolizing the inevitable security he brings as a protective deity. Even though the movie is about his character towards the girls, he was not created or summoned for the girls solely on their own. Throughout the movie, he still tends to his forest friends. He lives peacefully in the forest, looking over all the lives that inhabit themselves with him, including Satsuki and Mei because they choose to explore his forest.

Totoro being a connector between humanity and the environment establishes how nature

serves to restore balance through an approachable figure to the girls. How naturally he was able to present himself as an un-intimidating and not overly powerful presence but as a comfortable, sustaining figure who parallels the resources nature provides us such as clean water, air, and land without yearning for recognition. Offering his guidance and help through his simplistic acts of magic, can symbolize how nature supports humans unconsciously, but there's a balance when humans can cooperate with their environment. For instance, Totoro gives the girls a bag of seeds that they plant near their home. One night, Totoro and his forest friends are dancing around the seeds and a tree grows significantly with strength. Connecting to the broader message of how human stewardship and nature's ability can create new life is an excellent representation of how to preserve the natural world. The girls show cooperation in planting the seeds and Totoro's involvement in using their planted seeds to bring nature to its full potential.

WALL-E (2008)

While Studio Ghibli's *My Neighbor Totoro* illustrates the beauty of humanity's relationship with nature, Disney's *WALL-E*, illustrates a consequence of how humanity's extreme actions can influence their world. *WALL-E* tells the story of an Earth being left behind with a disastrous amount of trash and one robot is left to compact the trash into cubes while humans have left because of its deadly conditions. Throughout the movie, *WALL-E* embodies both a protective deity and a trickster spirit as the main character, but he embodies the same message to all humans: share the responsibility to nurture and sustain the environment rather than exploit it.

To start *WALL-E*'s role as a protective deity to restore planet Earth, it was revealed that *WALL-E* finds a green plant in a boot inside a refrigerator. When Eve, a technological robot sent down to planet Earth to see if vegetation and sustainability are capable, comes into contact with *WALL-E* and the plant he found, he entrusts the plant into her care. However, *WALL-E* decides to follow Eve into the Axiom spaceship, the habitable home for humans revealing his concern for the

plant's survival which connects to his original purpose to get rid of trash and to help restore Earth's cleanliness. His determination to save this plant as a critical element of hope shows his dedication to the lifeless Earth's restoration as a protective deity.

However, as a trickster spirit, WALL-E disrupts the comfortable yet lazy routine the humans heavily rely on. When WALL-E follows Eve to the Axiom, their system goes into chaos because he ends up stealing the plant back from Eve due to his unawareness of what her initial purpose was and fears for the plant's safety. WALL-E's natural behavior causes chaotic interruptions to set the norm off course. He sets the system off and draws attention to the plant, inadvertently exposing the truth about how people are so tunnel-visioned in their artificial lives. People have become dependent on technology and detached from personal connections to one another and their natural world, so it's bizarre that they take notice of something beyond looking at screens and sitting in chairs all day. In *A Greener Disney* written by Cidalia Pina, she examines that Wall-E "conveys that it is never too late, mistakes and choices can be reversed to promote better environmental practices and choices for our future" (Pina 180). His role as a trickster spirit is to challenge humans to confront the barren reality and the consequences of their degrading actions of ruining their home.

Furthermore, there is another protective deity through Eva. Her role emerges as she's on a mission to search for environmental restoration. She has a powerful and precise commitment to her mission of protecting the planet, which is solidified numerous times throughout the film. An example of this would be when the plant is returned to Axiom, Eve implores for it to reach the captain, despite the opposition from the autopilot system, which wants to prevent humanity from returning to Earth; she is a leader guiding all of humanity to reclaim their responsibility for Earth. She also, in the subtle ways of her role towards WALL-E, tries to protect and heal whoever is in need, extending her guardianship. Whether WALL-E is damaging himself (like he always does) throughout the journey or when the Axiom's security systems threaten him, Eve is there to fix him

or defend him and his message. Eve embodies the role of a protective deity alongside WALL-E as she is the bridge between life on Earth to the Axiom spaceship.

Princess Mononoke (1997)

Princess Mononoke is a Studio Ghibli film that illustrates the tension between industrialization and preservation. Princess Mononoke, or known as San, is the Forest Spirit's guardian along with the wolf goddess, Moro, their wolf packs, and the Great Forest Spirit who comes in the forms of a creature who glows and a deer with a human face, to provide balance and defense against human invasion. San was raised by Moro and taken in because of the abandonment of her parents and grew up associating herself with embodying a wolf. There are multiple protective deities in this movie: San, the Forest Spirit, known as Shishigami, and Moro.

The most divine protective deity in this film would be The Great Forest Spirit, also known as Shishigami. This deity serves as the theme of life and death but also solidifies the Shinto belief in keeping harmony and respecting nature. Whether it be the spirit using its power to heal wounds, it should also be respected when naturalistic beings must die to bring in the new.

One of San's prominent character traits that makes her a protective deity is how aggressive she is when she defends the forest from a village called Irontown. Industrialization is approved by Irontown's leader: Lady Eboshi. Irontown is a settlement that is dedicated to mining iron and producing firearms, becoming a force of safety net for humans, but destructive for the forest. The film's conflict comes from destroying the lands the spirits live in to make space for mining, and this is an outlet for San to defend the forest from Lady Eboshi. However, her warrior-like behavior causes her to be a complex protective deity because she tends to seek to destroy her enemies, rather than become a guide for the forest. Through Moro's teachings, a maternal figure to San, San inherits wisdom for understanding rage and anger-driven war is not a sign of true guardianship, but rather San needs to learn how to be resilient and understanding to all humans. This solidifies Moro's

behavior as a protective deity but also allows San to take responsibility for Moro's role when she passes (due to the war between Irontown and the Forest) of being the ultimate defender of the forest.

Another prominent character helps exemplify themes of possible coexistence as a result of diminishing the power of dominance and instead learning respect for the natural world: Ashitaka. Ashitaka had killed a dying boar spirit in defense of it attacking his village, but the boar puts a curse on him, and this helps him to see the flaws in both the humans and the Forest spirit, serving as a mediator between the natural world and Lady Eboshi's village, the catalyst for peace between both worlds. While trickster spirits bring truths to light and disrupt established norms, Ashitaka would not be considered a trickster spirit, but instead a character that understands the complexity of both perspectives behind the reasoning of the war, even though he challenges both perspectives to face the consequences of their actions. Human civilization's reasonings for expansion for mining fields aren't inherently evil, but the disregard for the natural world allows for sympathy for the Forest. The research article titled, "Anime Landscapes as a Tool for Analyzing the Human–Environment Relationship: Hayao Miyazaki" states Miyazaki's "privileging of forests and trees in pre-war or even pre-modern settings in works such as... Princess Mononoke... reflects his vision of what is lost and includes a world in which nature is not yet dominated by humanity and exists as a powerful force in itself, strong in its identity as the non-human Other" (Mumcu and Yilmaz). The "non-human Other" emphasizes that nature cannot be for human gain only. There is value and agency in illustrating what once was, but this also correlates to how people should face their consequences and suffer what was lost.

To follow the Shinto beliefs and what Kami represents, both worlds need to respect each other to live in harmony without overtaking the other; in this case, no one is necessarily the enemy because they didn't want complete control, however when seeing the opposing side as an obstacle, it

can lead to unnecessary tension and vengeance, such as the attack on the Great Forest Spirit which spills its blood across the land and it kills natural elements.

Moana (2016)

The Disney film *Moana* most famous for its captivating musical score and climatic heroic plot is a prime example of both archetypes displaying two protective deities, Te Fiti and the Ocean, and the trickster spirit, Maui. Te Fiti is the protector and life-giving deity to the people of Motunui, a fictional island that stemmed from Polynesian culture, but when the Heart which is the catalyst for sustaining life is taken by Maui the demigod, Te Fiti turns into a lava monster renamed, Te Ka. The Island's vegetation is declining as groves are producing crops that are decaying easily, and a prominent problem that leads Moana to go on her journey to find Maui to restore the Heart, is that there are no more fish. Already, Te Fiti can be categorized as a protective deity because of the declining ecological effects the village faces when she is no longer able to produce the fruits of sustainability and life. This also supports how Disney is using the two-in-one characters Te Fiti who needs saving, and Te Ka who needs to be defeated, to give Moana, the hero chosen by the Ocean, a quest to help her village thrive. Throughout the movie, the Ocean often guides Moana to fulfill her journey by making sure her boat is going in the correct direction of Maui's whereabouts, interfering when Maui does not want to go with her to restore the Heart and playfully places him on her boat when he tries to swim away. Even the Ocean choosing Moana as a child for this to be her destiny is a sign of a protective deity as it reinforces its divine powers to not only help Moana but for the good of all.

Maui's character may look like a protective deity because of how he was given his divine powers as a demigod. Still, the evidence of how he uses these powers compared to the elements of a protective deity categorizes him as a trickster spirit. It was revealed he was born human, but abandoned by his parents. The gods taking pity gave him powers such as his shapeshifting abilities,

his mighty strength, and a fishhook gifted from the gods to use as a magical weapon. He abuses his powers and challenges divine authority, and normal order by stealing from the gods, such as the sun, pulling islands from underwater to create more land, and giving wind and fire to humans. As a trickster spirit, he reversed the natural order of prosperity for the sole approval of humans, so he toed the line of heroism and was reckless. However, his attempts at heroism caused ecological disasters. He steals the Heart to give to humanity thinking it will give them the power to create life, but his seek-approving actions have severe consequences, which leads the motivation for Moana to become the hero, and in the end, is the one who places the Heart back. His actions and Te Fiti's need for the Heart are catalysts for Moana to follow the hero plotline and showcase themes of certain actions of exploitation of nature bear the weight of the consequences such as a loss of vegetation or sudden environmental collapses. It is also taught that with bearing the consequences, there is also the opportunity and a responsibility to reverse what was done, and a lesson on how nature can carry its power through abundance or wrath and that it is not a force to be tampered with. Moana's role as a hero came with not only saving her island but also realizing how much respect nature deserves on its own.

Spirited Away (2001)

Spirited Away, is a movie about a family moving to the suburbs and follows the ten-year-old protagonist, Chihiro, who embarks on a journey to the spirit world near an abandoned amusement park with supernatural beings, protective deities, and trickster spirits. Chihiro meets a protective deity of Kamaji, the boiler man, and the trickster spirit of No-Face. The main conflict of the storyline is that Chihiro has to rescue her parents from when they were transformed into boars after eating food meant for spirits and returning to the human world. Throughout her journey, there are also signs of environmental conflicts such as human negligence can lead to pollution and how humanity can purify and renew what was ruined.

To start with the vessel that exemplifies the theme of environmental negligence, there is a bathhouse, a place for spirits to come rest and cleanse themselves. The bathhouse prioritizes service and greed over caring for the natural world, and most spirits have abandoned their spiritual roles and prioritized being pampered instead of committing to their respected responsibility. Hayao Miyazaki states “Our world appears ever more fuzzy and confusing, yet in spite of that it threatens to corrode and devour us...today’s children are surrounded by a high-tech world and increasingly lose sight of their roots in the midst of so many shallow industrial products” (Merve 110). This serves as a metaphor and an illustrated contradiction of how there are naturalistic spirits, yet they operate under a business-for-profit, like how humans don’t preserve naturalistic elements and view them as an opportunity for profit.

Kamaji is a protective deity to Chihiro when she stumbled into the bathhouse meeting him, she finds out he operates the boiler room and helps power the bathhouse, which are vessels to keep the flow and energy consistent between the human and spirit worlds. He carries characteristics of a protective deity by illustrating his physical work of making sure water flows properly and that the fire is always burning, bridging both worlds together. He also helps Chihiro hide from the witch Yubaba (who owns the bathhouse) and gives her a job so she won’t be cast out showing that as a worker loyal to his role, he finds that kindness is more important.

There is a trickster spirit named No-Face, who teaches a lot of lessons through his significant declining and uplifting transformation throughout the film. In an act of kindness, Chihiro opens the door to the bathhouse for him to enter after seeing him lingering, and he’s introduced to the bathhouse culture. He ends up magically producing gold seeing as the money-gluttonous atmosphere has manifested to him, and with the adoration the other spirits have for him, he’s immediately influenced. He loses control of containing his greed, and now he cannot stop eating the workers causing distress and immense havoc, another element of a classic trickster spirit, but also a

metaphor for how humans can corrupt their environment through the gain of uncontrollable power.

To gain back his normal state, Chihiro helps him with his redemption to become purified. He ends up chasing her in a rage because he has noticed that she is not greedy or easily influenced by money, and it makes him more obsessed with her. In an attempt to form a deeper connection, he chases her. Chihiro offers him a healing dumpling that causes him to regurgitate all he has consumed, illustrating a purification process of what he's absorbed from the bathhouse. No-Face's story is a lesson learned of the importance of awareness of what is consumed and he was forced to confront the truth of how his greed made him chaotic.

Frozen II (2019)

This Disney film expands on Elsa, Anna, Kristoff, Olaf, and Sven uncovering the truth about how elemental spirits and the human world are interconnected while Elsa discovers what it means to be the fifth elemental spirit becoming a protective deity to the spirits and the people of Arendelle. Elsa tended to several elemental spirits, foreshadowing her role as becoming the fifth elemental spirit, the spirit who acts as a guide for both the human and natural world. Her ability to tame and pacify them demonstrates key characteristics of a protective deity. One example of this would be when she calms down the Fire Spirit—who appears as a frightened salamander from noticing her presence—from setting a forest on fire. She cools his flames with magical snowflakes allowing him to calm down and portraying that she understands how to be gentle instead of using force. On the contrary, when meeting the Water Spirit, it appears as a powerful, aggressive horse trying to drown Elsa in the sea, resisting her endurance and trying to test her strength. To earn the Water Spirit's trust, she knew she needed to prove her resilience and show how she could fight untamed forces of nature and match its intensity. The nuance of where her guardianship lies exemplifies her transformation of how she is capable of protecting and understanding all elements of life.

The last and major conflict in this story's hero plotline that follows Greek mythology is having to save Arendelle before a flood comes to destroy the village. Elsa, in a frozen state after going beyond her magical limits to find the truth about her powers, relies on Anna to go to Arendelle and break a dam that was an act to restore the balance between the human world and the elemental spirits, approved by Arendelle's past rulers. This dam disrupted the natural order, turning the spirits into a rage. The dam needed to be destroyed, but Arendelle was going to flood, and in a sudden act of heroism, Elsa returned from her frozen state and stopped the flood with the Water Spirit just in time. She returned triumphantly, solidifying her role as not only a protective deity but the sole hero to restore peace.

IV. Discussion and Results

A recurring central theme that appears in all six Disney and Studio Ghibli films is the symbolization of humanity and nature needing to coexist rather than trying to live in opposition. In both movie studios, there is a growing awareness of how mythical archetypes can serve as efficient voices to teach audiences how to perceive their environmental responsibilities. These figures embody responses to destruction, harmonious connections, or rebirth. What does this mean for how this affects modern environmental concerns? As many children and adults have watched and adored these two movie studios, by illustrating nature as having conscious, reactive, forces that carry pure power and transformation, these narratives can allow audiences to recognize the consequences of environmental exploitation. The popularity and influence of these movies can solicit ecological change and inspire action in young adults and children to reshape humanity's relationship with the natural world. Environmental destruction is not just about resources, but also about moral and spiritual failure.

V. Conclusion

Each movie studio has used its mythical archetypes of protective deities and trickster spirits of either Japanese Shinto beliefs, where Kami is the idea that all nature is sacred, powerful, mighty, and respected, or Greek-inspired beliefs where it is a hero's journey and their role to save their environment. Studio Ghibli emphasizes the importance of all characters recognizing their responsibility and keeping the peace, following the Japanese Shinto beliefs, while Disney follows the hero trope of a single act or several acts of redemption to restore an environment done by one person with the help of other characters to get the one goal accomplished. In the end, the power of media bridges the gap between entertainment and environmental activism. Movies can globally influence audiences to take action, inspired by these stories for the survival and future of humanity.

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Interdisciplinary Studies II

Rowan Rybak
Montgomery College
Mentor: Dr. Nathan Zook

Title: “Global Progress, American Failure”

Judge’s comments: Rowan Rybak pens an exhaustive look at the issues related to maternal mortality rates. Considering race, poverty, and housing instability, Rowan’s research shows the inequity in the US regarding how pregnant women receive care. With the tone and language of seasoned author, Rowan shows how impactful this inequity has become in the US and how catastrophic it has been on women and their pregnancies. Rowan’s work is simply remarkable for a scholar at this level.

Dr. Aaron Lorenz

Global Progress, American Failure: Rethinking Maternal Care in the United States

As the world becomes increasingly globalized, increased accessibility to technology, education, and medicine has accelerated the development and distribution of life-saving treatments, vaccines, and diagnostic tools. With increased connectivity came the need to assess the evenness of its effects, and international organizations such as the World Health Organization, Global Burden of Disease, and Human Development Index have developed systems to evaluate resource evenness across countries by taking factors such as income per capita, life expectancy, standard of living, education, and more. Within these systems, maternal mortality rates, or MMRs, have come to be considered key indicators of countries' development and healthcare; in other words, the safety of a country's mothers can have implications for the country's conditions.

A 2016 Lancet analysis of the 2015 Global Burden of Disease report offers a striking example of how MMRs can reflect broader global trends. According to the report, the global MMR-measured in deaths per 100,000 live births-dropped about 30% between 1990 and 2015 (Bernet et al. 1783). Perhaps more surprisingly, it also showed that, while not evenly, these effects were experienced by countries with high, moderate, and low values on the Socio-demographic Index or SDI-a summary metric developed by GBD researchers that scores countries on a scale from 0 (representing the lowest income per capita, lowest educational attainment, and highest fertility rates) to 1 (representing the highest income per capita, highest educational attainment, and

lowest fertility rates).

In countries with high SDI scores, the average MMR decreased steadily by approximately 2.1% annually from 1990 to 2015, reflecting a global trend toward improved maternal health outcomes (Bernet et al. 1784). However, the United States stands out as a concerning anomaly in these global patterns, having experienced a rise in maternal deaths during the same period. In 2015, the U.S. MMR was shockingly 56% higher than it had been twenty-five years earlier, climbing from a rate of approximately 16.9 deaths per 100,000 live births to roughly 26.4 deaths per 100,000 live births—a figure 1.76 times higher than the average for other nations within the same SDI strata (Bernet et al. 1784). This trend has only worsened in recent years; by 2021, the MMR in the United States had risen to approximately 32.9, surpassing that of any other Western country (CDC). Such an alarming inversion of global progress raises questions: how can one of the wealthiest and most technologically advanced nations in the world—often upheld as a leader in research and innovation—exhibit maternal health outcomes more reflective of nations with significantly fewer resources?

The maternal health crisis in the United States is inextricably linked to the profound racial disparities that continue to shape the nation's healthcare system. While some scholars, such as those cited in *The Lancet*, suggest that part of this elevated MMR can be attributed to the introduction of a pregnancy checkbox on death certificates—an effort aimed at improving the documentation and reporting of maternal deaths—this adjustment in data collection alone cannot fully explain the persistently

high MMR in a country that boasts a relatively high Social Development Index (SDI) in comparison to other nations (Bernet et al. 1800). The continued escalation of MMR points to deep-rooted, systemic issues within the healthcare system that go far beyond changes in statistical reporting. One of the most alarming indicators of these entrenched problems is the staggering racial disparity in maternal mortality rates, which provides a glaring reflection of the broader inequities embedded within American society. This disparity unveils an unspoken truth: racial inequalities in healthcare persist in ways that are both historical and contemporary, enduring despite significant advancements in medical technology and public health knowledge.

For example, in 2019, data from the Centers for Disease Control and Prevention (CDC) revealed that Black women in the United States were three to four times more likely to die from pregnancy-related causes compared to their white counterparts. This disturbing statistic paints a chilling portrait of the American healthcare system—one that has systematically failed Black Americans for generations, perpetuating both social and health inequities. The situation is emblematic of the broader racial disparities that characterize nearly every facet of American life, from economic and educational outcomes to housing and criminal justice. In the context of maternal health, this crisis underscores the intersection of race, class, and gender in shaping the lived experiences of Black women. The disproportionate toll of maternal mortality on Black women reflects not only the immediate shortcomings of the healthcare system but also the long-standing history of discrimination and exploitation that continues to affect Black

individuals and communities.

At best, American policies surrounding pregnancy and childbirth have consistently overlooked the unique needs of Black families and individuals, offering solutions that are neither responsive nor inclusive of the diverse realities that these groups face. At worst, these policies have acted as tools for perpetuating racial and socioeconomic inequities, further entrenching the disparities that define the maternal health crisis. Whether by neglecting to address the root causes of health inequity or by adopting policies that exacerbate them, the U.S. healthcare system has compounded the harm done to Black and Indigenous populations, placing their lives at greater risk. This systemic disregard for racial equity is exacerbated by the overmedicalization of childbirth in the United States, which often prioritizes efficiency, profit, and institutional power over the holistic needs of birthing individuals. As a result, women of color- especially Black and Indigenous women-are left to navigate a complex and often alienating system that fails to acknowledge their specific health needs, cultural contexts, and the historical traumas they endure.

The failure to provide adequate, culturally competent care for Black women during pregnancy and childbirth is not merely a failure of policy but a manifestation of a broader historical and social neglect. The ongoing marginalization of holistic care practices, such as those provided by midwives, doulas, and community birth workers, exacerbates the situation. These traditional birth workers have long been instrumental in providing care that centers around the needs and preferences of the birthing person,

offering emotional, physical, and informational support attuned to cultural sensitivities and personal circumstances. Their practices are often rooted in a deep understanding of the body, the community, and the complex intersection of race, gender, and health. Unfortunately, the medicalization of childbirth, particularly in hospital settings, has undermined these alternative care models, reinforcing the idea that birthing individuals require medical intervention rather than holistic, community-based support.

The U.S. maternal mortality crisis, particularly among Black and Indigenous women, demands a multi-faceted response that addresses historical and systemic inequities. Policy reforms must prioritize equitable healthcare funding and expand access to culturally competent care, including integrating midwifery and doula services. Restoring the role of traditional birth workers can help dismantle disparities and improve maternal health outcomes. These changes would create a more inclusive and humane healthcare system, benefiting all birthing individuals. Without such reforms, the U.S. will continue to face devastating maternal health disparities, disproportionately harming marginalized communities.

Birth has not always been treated as a purely clinical event. Across centuries and cultures, pregnancy and childbirth have been viewed as natural, communal processes deeply embedded in the social and spiritual fabric of communities. In many societies, birth was and in some places still is—a shared experience supported by the collective wisdom of women who take on the roles of caregivers and guides. Midwives, family members, and community elders have traditionally provided not only medical assistance

but also emotional, spiritual, and psychological support, reinforcing the idea that childbirth is not simply a medical event but a profoundly human and communal one.

The historical and cultural significance of midwifery varies across regions, but a common thread remains: the integration of traditional knowledge, cultural rituals, and a holistic approach to care. In many Indigenous cultures of North America, midwifery was regarded as a sacred practice, blending practical medical knowledge with spiritual traditions. Indigenous midwives provided continuity of care from pregnancy to postpartum recovery, ensuring both the physical and emotional well-being of the mother and child. Many Indigenous birthing traditions emphasized the importance of ceremony, with specific songs, prayers, and rituals performed to welcome the child into the world (Suarez 3). These traditions were not only medical in nature but also served to strengthen communal bonds, affirm cultural identity, and reinforce the spiritual connection between the mother, the child, and their ancestors.

Similarly, in parts of West Africa, midwifery has long been a revered practice passed down through generations. Midwives, often elderly women with deep community ties, have traditionally used herbal medicine, massage techniques, and spiritual guidance to ensure a smooth birth. In addition to providing hands-on care, they have served as trusted advisors, offering wisdom on fertility, pregnancy, and motherhood. These practices extended beyond individual births, as midwives often played vital roles in broader community health, serving as healers and educators. This knowledge became particularly significant in the context of the transatlantic slave trade, as

enslaved African women in the Americas relied on these practices to care for their communities under brutal and inhumane conditions. Their expertise not only sustained enslaved populations but also influenced the development of American midwifery and obstetric medicine (Ajayi-Lowo 279-280; Suarez 3).

In South Asia, the role of the *dai*, or traditional birth attendant, has long been central to childbirth. *Dais*, typically older women within the community, provide personalized care that is deeply rooted in familial and cultural connections. Unlike Western obstetricians, who often treat childbirth as a series of clinical interventions, *dais* offer a more holistic approach, focusing on the mother's physical comfort, mental well-being, and spiritual preparedness. Traditional South Asian birthing practices often involve massage, herbal remedies, and dietary guidelines believed to strengthen the body for labor. These practices, while dismissed by Western medicine as unscientific, have endured for centuries due to their effectiveness in addressing the individual needs of birthing women (Mukhopadhyay 61).

In Latin American cultures, birth has historically been viewed as a communal and family-centered experience. Traditional midwives, known as *parteras*, have played a crucial role in rural and Indigenous communities, where access to formal medical care has often been limited. *Parteras* do more than assist with childbirth—they provide prenatal education, postpartum care, and emotional support, reinforcing the idea that birth is not an isolated medical event but a lifelong transition requiring continued guidance. Many Latin American birthing traditions emphasize the importance of warmth

and movement during labor, as well as postpartum rituals such as *la cuarentena*, a forty-day period of rest and recovery during which the mother is cared for by female relatives. These practices recognize the immense physical and emotional toll of childbirth and the necessity of long-term maternal care-an aspect often overlooked in Western medicalized birth settings (Gallien 644).

In Japan, childbirth has historically been guided by a philosophy of minimal medical intervention and maximum maternal comfort. This philosophy centers the importance of a calm and natural birthing environment and often incorporates breathing techniques, dietary guidelines, and postpartum massage to support recovery. Even as Japan transitioned to hospital births, the emphasis on non-interventionist care remained, with nearly half of all births taking place in obstetric clinics with midwives attending (Doering et al. 965). This approach contrasts sharply with the high-intervention, efficiency-driven model dominant in the United States.

These global traditions highlight a fundamental understanding that seems to have eluded the modern U.S. healthcare system: birth is a natural process that thrives in the presence of support, trust, and communal care. While medical advancements have significantly reduced maternal and infant mortality in many parts of the world, the overmedicalization of birth-particularly in Western countries-has stripped the process of its human and cultural significance. The midwifery models practiced across cultures reflect a time-honored belief that childbirth is not merely a biological event but an inherently human experience, one that requires more than clinical intervention alone.

In stark contrast to these global traditional birthing practices, birth in the United States is an almost entirely medical event, shaped by standardized protocols and clinical interventions. As of 2023, approximately 98.3% of women give birth in hospitals, where the process is dominated by strict procedural guidelines aimed at managing risks and ensuring efficiency (Grünebaum et al. 1965). Unlike traditional birth practices that emphasize the natural, communal, and holistic aspects of childbirth, the modern American model often treats birth as a medical emergency rather than a physiological event. This approach prioritizes intervention and risk management over individualized, culturally competent care, creating an environment that can feel impersonal, isolating, and, in some cases, disempowering. Many birthing individuals, particularly those from marginalized communities, report feeling unheard or dismissed in hospital settings, contributing to disparities in maternal healthcare outcomes.

The medicalization of birth in the United States is characterized by the widespread use of invasive procedures, many of which are performed unnecessarily. The reliance on continuous fetal monitoring, routine inductions, epidurals, and surgical interventions has turned childbirth into a highly controlled process that often disregards the preferences and autonomy of the mother. One of the most concerning aspects of this approach is the overuse of cesarean sections, which are performed at significantly higher rates than in many other countries. While cesareans can be lifesaving in emergencies, their frequent use in non-emergency situations suggests a systemic issue tied to hospital efficiency and provider convenience rather than patient-centered care.

The World Health Organization recommends a cesarean rate of 10-15% for optimal maternal and infant health; yet, U.S. hospitals far exceed this threshold, raising concerns about unnecessary surgical risks and longer recovery periods (Ani 344). This emphasis on intervention over natural birth reflects broader systemic issues within American maternity care, where efficiency and control often take precedence over the well-being and autonomy of those giving birth.

A particularly troubling aspect of the maternal healthcare crisis in the United States is the stark racial disparity in surgical birth interventions, particularly cesarean sections. Black women experience the highest rates of cesarean deliveries among all racial and ethnic groups, with 36% of their pregnancies resulting in this procedure, a statistic that highlights deeper systemic inequities within maternal healthcare (Ani 344). While cesarean sections can be necessary in certain medical situations, their overuse among Black women is especially concerning given the associated risks. Research shows that cesarean deliveries increase the likelihood of maternal mortality sixfold compared to vaginal births, making the disproportionate rate among Black women a critical public health issue (Ani 346).

What makes this disparity even more alarming is that many of these cesarean procedures are not medically required but are instead influenced by subjective decision-making, hospital policies, and implicit provider biases (Ani 347). Black women are more likely to experience pressure to undergo cesarean sections, often without fully informed

consent or a thorough discussion of alternatives. Implicit racial biases in healthcare can lead providers to dismiss their concerns, underestimate their pain, or make assumptions about their ability to endure labor, ultimately increasing their likelihood of receiving surgical interventions. Additionally, systemic factors such as financial incentives within hospitals further contribute to the overuse of cesarean sections, prioritizing efficiency and liability reduction over individualized, patient-centered care.

The structural disadvantages that Black women face in society also contribute to the increased likelihood of cesarean births. One major factor is obesity, a condition that disproportionately affects Black women due to systemic inequities in access to nutritious food, quality healthcare, and opportunities for physical activity. Obesity is frequently cited as a risk factor for cesarean deliveries, and because Black women face higher rates of food insecurity and healthcare discrimination, they are more likely to develop conditions that complicate pregnancy and childbirth (Ani 347). However, rather than addressing these broader health disparities, the medical system often defaults to surgical interventions, perpetuating a cycle of unnecessary procedures without tackling the underlying causes.

The structural disadvantages that Black women face in society are not confined to the delivery room; they often create the very conditions that increase the likelihood of cesarean sections in the first place. One significant example is obesity, a condition that disproportionately affects Black women due to systemic inequities in access to nutritious food, quality healthcare, and opportunities for physical activity. Obesity is frequently

cited as a major risk factor for cesarean deliveries, and because Black women face higher rates of food insecurity and healthcare discrimination, they are more likely to develop conditions that necessitate surgical births (Ani 347). However, rather than addressing the root causes of these health disparities, the medical system often defaults to cesarean deliveries as a solution to potential complications, perpetuating a cycle of intervention without tackling the broader social determinants of health.

Furthermore, the physical toll of cesarean recovery can exacerbate existing health disparities, making it even more difficult for Black women to recover after childbirth. The complications associated with cesarean sections, such as infections, hemorrhage, and damage to surrounding organs, significantly increase the likelihood of chronic health conditions like hypertension, diabetes, and complications in future pregnancies (Ani 347). This not only creates immediate health risks for Black women but also perpetuates a cycle of health inequities that disproportionately affect them. The overuse of cesarean sections among Black women contributes to maternal health outcomes that continue to lag behind those of other racial and ethnic groups, highlighting the urgent need for comprehensive policy and systemic changes to address these disparities.

The rise of the medicalized birth model in the United States has significantly contributed to the erosion of traditional birth practices that once emphasized the importance of community, continuity of care, and holistic approaches. Historically, midwives and birth attendants played a central role in guiding laboring women through

childbirth, offering not only physical support but also essential emotional and psychological reassurance. These traditional practices fostered a sense of connection, care, and support-traits that have largely been lost in today's medicalized childbirth model. Instead of a shared experience, modern births, particularly in hospitals, often become isolating and dehumanizing. The laboring woman is separated from her support system, restricted in her mobility by hospital protocols, and subjected to impersonal medical routines that can strip away her agency. Women in the hospital setting are often required to follow a predetermined set of protocols, leaving little room for flexibility, personal preference, or individualized care, further contributing to a sense of disempowerment during such significant moments of their lives.

The marginalization of midwifery is not an accident but the result of a deliberate historical shift from community-centered childbirth care to a male-dominated, medicalized model. The rise of obstetrics in the 19th century marked a turning point in U.S. childbirth practices. Before this, midwives, many being women of color, played a central role in supporting pregnant women. African women, particularly those enslaved and brought to the Americas, were essential in shaping the emerging system of childbirth care. The birth traditions they brought from West Africa, rooted in communal knowledge and an understanding of birth as a social process, evolved in response to their new, often oppressive conditions. These women, known as "grand midwives," developed a "new world healing culture" that prioritized the well-being of both mother and infant, as well as the emotional and spiritual health of the birthing person (Ajayi-

Lowo 279; Suarez 2). Revered in their communities, grand midwives cared for both enslaved women and plantation mistresses. Their practices, grounded in empathy, cultural competence, and a deep understanding of human physiology, contrasted sharply with the increasingly medicalized obstetrics model that sought to control the birth process.

However, as the 19th century progressed, the rise of obstetrics, led primarily by white male physicians, began to threaten the long-standing tradition of midwifery. These physicians, many of whom were driven by a desire to control and professionalize childbirth, launched campaigns that portrayed midwives, particularly Black midwives, as unclean, uneducated, and outdated (Suarez 3). This narrative, steeped in racial and class-based biases, not only undermined the credibility and expertise of midwives but also sought to push them out of practice altogether. The medical establishment, seeking to solidify its professional dominance, actively worked to marginalize Black midwives, even though these midwives had long been recognized as essential figures in their communities. By the early 20th century, licensing laws and public health initiatives, such as the Sheppard-Towner Act, institutionalized these biases and created a system that systematically excluded Black midwives, particularly in Southern states, from receiving formal recognition and support (Cancelmo 2; Suarez 3). This shift was crucial to the professionalization of obstetrics, which sought to cement hospital births as the standard, further displacing midwifery care in favor of a more medicalized approach.

The 1970s and 1980s saw a resurgence of midwifery, but the movement toward

professionalizing midwifery in the U.S. came at a cost. Despite the foundational contributions of Black midwives, the professionalization process largely centered on white practitioners, who alienated many Black midwives from the movement (Cancelmo 5). As midwifery became more regulated and institutionalized, its connection to the communities it had historically served began to weaken. The emphasis on formal education and professionalization further distanced midwifery from the holistic, culturally grounded practices that had been so central to its success in marginalized communities. This disconnection, in turn, contributed to the erosion of culturally competent care—an issue that continues to have a significant impact on maternal health outcomes for women of color. As midwifery became more institutionalized and less accessible to marginalized groups, the disparities in maternal care widened, particularly for Black, Indigenous, and Latina women, whose healthcare needs were often dismissed or misunderstood within the dominant medical system.

The exclusion of Black midwives from the modern healthcare system and the ongoing devaluation of traditional birth practices are glaring reminders of the importance of reclaiming these practices in today's maternal healthcare environment. Restoring the role of midwives, particularly those from marginalized communities, is not only essential to improving birth outcomes, but also to rectifying a historic injustice. By recognizing and amplifying the voices of Black midwives and other birth workers of color, we can begin to restore the cultural competence, community trust, and holistic care that have been

lost in the wake of overmedicalized childbirth. The resurgence of midwifery, especially as a practice rooted in cultural sensitivity, can provide a powerful counterpoint to the dominance of obstetrics and offer a more inclusive, empowering approach to maternal healthcare-one that acknowledges and addresses the deep-seated inequities that continue to plague our healthcare system.

Preventative care is also a crucial tactic not being utilized enough in the United States. State governments can and must make a tangible difference in health outcomes for Black and Native American mothers by allocating more funding to maternal care programs. One study in Florida found that a 10% increase in program spending led to a 13.5% decline in maternal mortality rates among Black mothers and a 20% reduction in the racial disparity in maternal deaths. These results underscore the importance of funding public health initiatives that directly address the needs of disadvantaged populations, particularly in communities where systemic racism, lack of access to care, and chronic conditions like hypertension and diabetes disproportionately affect Black mothers. By increasing investments in these programs, state governments can ensure that Black women have access to vital prenatal care, early interventions, and culturally competent healthcare providers-resources that can significantly reduce maternal mortality and help close the racial gap in maternal health outcomes. Without these critical financial commitments, the racial disparities in maternal health will persist, continuing to threaten the lives of those most vulnerable (Bernet et al. 166).

Doulas, who provide continuous emotional, physical, and informational support

during labor, are uniquely positioned to help combat these inequities. Research shows that doula-supported births lead to reduced rates of interventions such as cesarean sections and preterm births and can even lower maternal mortality rates (Nash 35). However, these benefits are not equally accessible. Due to the historical and ongoing marginalization of Black and Indigenous birth workers, these communities are often excluded from mainstream healthcare systems, which are frequently ill-equipped to provide culturally competent care. As a result, the potential benefits of doula care remain out of reach for many who could benefit the most.

Black and Indigenous birthing people often face additional hurdles in accessing doula support, such as financial barriers, limited availability of culturally competent doulas, and healthcare systems that are slow to incorporate doula care into their models (Nash 39). Insurance coverage for doula services remains limited in many parts of the U.S., further restricting access for lower-income families, a demographic that includes many Black and Indigenous people. Moreover, the medicalization of birth—particularly in hospital settings where doulas are often seen as unnecessary or supplementary—leads to a disconnect between birthing people and the kind of care they need. For Black and Indigenous communities, this disconnect can feel even more acute, given the long history of medical mistrust and trauma stemming from discriminatory practices in healthcare.

The historical and ongoing erasure of Black and Indigenous birth practices, such as midwifery, has compounded these challenges. In many cases, the rich cultural traditions that once provided care and guidance during childbirth have been replaced by

a clinical, intervention-heavy approach that often does not consider the emotional and spiritual needs of birthing people. The loss of these practices has created a gap that doulas, especially those from within these communities, are helping to fill. Doulas not only provide support during labor, but they also offer a bridge to the cultural continuity that was severed by centuries of systemic oppression. They work to ensure that birthing people feel heard, respected, and safe, helping to combat the isolation and dehumanization that can often characterize hospital births for Black and Indigenous families.

The historical and ongoing marginalization of midwifery and culturally competent birth care in the United States has contributed to the persistent racial disparities in maternal health outcomes, particularly among Black and Indigenous communities. This systemic issue, rooted in racial and gendered biases, underscores the failure of the U.S. healthcare system to meet the needs of its most vulnerable populations. While other countries have integrated both traditional and modern practices to provide holistic and culturally sensitive care, the U.S. remains mired in an overmedicalized birth model that prioritizes efficiency and intervention over individualized, compassionate care.

Globally, many nations have successfully implemented a more balanced approach to childbirth, blending the advantages of medical advancements with the wisdom of traditional care models, and offering more empowering and supportive experiences for birthing individuals. The U.S., however, continues to grapple with a system that often isolates and disempowers birthing people, particularly those from

marginalized communities. This disparity in maternal health outcomes is a racial issue that demands immediate attention. Preventing maternal deaths, especially among communities that are disproportionately affected, is not only possible—it is a moral imperative. The advancements in modern medicine have already proven transformative in many areas, and they must now be applied with the goal of saving lives, not perpetuating oppression.

Modern medicine has undeniably made significant strides in improving health outcomes, raising standards of living, and contributing to global advancements in public health. The medical breakthroughs of the modern era are one of the greatest successes of globalization, offering life-saving technologies and treatments that have improved the lives of millions worldwide. However, as the U.S. continues to advance its medical infrastructure, it has failed to balance these innovations with respect for traditional, community-based practices, particularly in maternal care. While other countries have successfully integrated modern medicine with cultural competence and holistic care, the U.S. remains entrenched in an overmedicalized system that disregards the emotional, cultural, and spiritual needs of birthing people.

The U.S. has fallen behind other nations in its approach to maternal health. Countries around the world have demonstrated that modernizing healthcare systems does not require abandoning what has worked for generations, especially when it comes to childbirth. Global examples show that medical advancements can coexist with community-centered care, including the integration of midwifery and doulas, to create a

more empowering and effective system for birthing individuals. Yet, the U.S. continues to prioritize interventions over empowerment, contributing to alarming disparities in maternal health outcomes, particularly for Black and Indigenous communities.

We cannot continue to fail our mothers. The rise in maternal mortality rates, particularly among marginalized populations, reflects a profound systemic failure—one that is not due to a lack of medical capability but a failure to meet the complex needs of birthing individuals in a compassionate, culturally competent manner. Modern medicine should serve to enhance human life, not oppress people, and this is where the U.S. falls short. The solution lies not in rejecting medical innovation, but in recognizing the value of traditional knowledge and integrating it into modern practices. We must invest in our mothers by recognizing the essential role of midwifery, culturally competent care, and holistic practices, which can work alongside medical advancements to create a truly supportive and inclusive healthcare system.

As other countries adopt more balanced and inclusive approaches to maternal care, the United States must catch up. While it possesses the technology and resources to save lives, it must shift its priorities to ensure these resources are used to empower birthing individuals and address the deep racial and cultural disparities that continue to affect our healthcare system. The U.S. can no longer afford to fail its mothers, especially when preventing maternal deaths and improving health outcomes is entirely possible. It is time to invest in women's well-being, respect the value of traditional care

practices, and build a healthcare system that is both modern and compassionate. We must center birthing practices on the experiences of mothers rather than the convenience of doctors and prioritize women's lives over cost-saving measures. The need for reform is urgent.

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Women's/Gender/LGBTQ+ Studies

Alice Frank

Lehigh Carbon Community College

Mentor: Professor Jennifer Mykowski

Title: “*The Handmaid’s Tale*: Blurring the Lines Between Fiction and Reality”

Judge’s comments: *The Handmaid’s Tale* is canonical at this point and obviously deeply relevant to our current landscape. Alice Frank’s analysis of the novel highlighted its renewed importance. Her prose was elegant, but so was her passionate presentation. Her conviction to solidarity and intersectionality was clear and gave me hope for the future of feminism in an admittedly troubled time. We should all be so lucky to have such a wonderful and gifted student.

Dr. Gregory C. Mitchell

Margaret Atwood's *The Handmaid's Tale*: Blurring the Lines Between Fiction and Reality

In a society where women are treated as second-class citizens, subservient to their husbands no matter their rank in society, and as nothing more than a vessel to bear children, even the enforcers of such heinous acts are aware of its cruelty. In Chapter 32 of Margaret Atwood's acclaimed novel, *The Handmaid's Tale*, the Commander in charge of the main protagonist, Offred, says this: "Better never means better for everyone. It always means worse, for some" (Atwood 211). Preceding the publication of the 1985 novel, Atwood set a stipulation for herself in the creation of *The Handmaid's Tale* in which, in 2018, she states, "I would not include anything that human beings had not already done in some other place or time, or for which the technology did not already exist" (Literary Hub). What Atwood meant by this was that her novel, although fiction, would be carefully derived from events in history. Her interest, particularly in totalitarian regimes, fueled the inspiration for much of The Republic of Gilead, the dystopian society in which the novel takes place. Atwood emulates real-world instances of religious authorities abusing their power to develop Gilead as a dystopian society and the misinterpretation of biblical texts used to justify the human rights abuses apparent in society. Atwood has offered, what some readers suggest to be, "a cautionary tale." This holds true since Atwood herself asserts that the novel is speculative fiction. The fictionalized events of the novel are inspired from various notable eras of transgression in history. Though fictionalized, Atwood finds inspiration from real-world examples of human rights abuses across the globe and Puritan culture in the U.S. which aim to justify the subjugation of women to craft a striking work of speculative fiction.

In *The Handmaid's Tale*, the U.S. government is overthrown by a cult of right-wing Christian fundamentalists, who prioritize misogynistic and patriarchal ideals as the basis of the law in Gilead. The handmaid's of Gilead are the few remaining fertile women the government rounded up and sent

to an old school gymnasium which was converted into a “re-education” center, also known as the “Red Center”, where the women are trained to become handmaid’s and are conditioned into following Gilead’s ideology. Forced to copulate with the wealthy elites of society whose wives are past reproductive age or unable to reproduce, all while their wives lay with them during intercourse between their husband and the handmaid, in a ritual otherwise known as the “Ceremony.” Since much of Gilead’s ideology deals with biblical themes, one of which being fertility, Giledean law emphasizes the notion that women should “Be fruitful, multiply, and replenish the Earth” (Atwood 88).

The novel’s central character, the handmaid which the story follows, Offred, battles with the idea of accepting her new life, while simultaneously yearning for the life she was forced to leave behind. Though Offred is obedient in both her duties as a handmaid and to the Commander and wife she serves, she often conceives thoughts of her life before Gilead, reminiscing about the people and events in her life, including her mother, her estranged friend, her husband, and her daughter, whom she was forced to leave after being denied entry into Canada in an attempt to flee the country; “That was what happened, the day we tried to cross at the border, with our fresh passports that said we were not who we were...” (Atwood 224). Offred is meticulous in her exploration for normalcy, finding familiarity in everything from cigarettes to dandelions. Her relationship with the handmaid whom she is partnered with, Ofglen, and her knowledge of the secret resistance known as “Mayday,” sparks her will to survive, to find her daughter, and to seek freedom.

The Gileadean government divides women into various categories including “The Handmaids”—the book’s namesake— “The Wives”, “The *Econowives*”, and the “Unwomen.” The Handmaids lose every aspect of their individual freedom including their names, which become a combination of the word “Of” and the name of their commander, i.e., Offred is an amalgamation of “OP” and “Fred.” Her name used prior to the rise of the Gileadean government is not explicitly

stated in the books, however, the use of reassigning the Handmaids a name is yet another way Gilead attempts to rid women of their identities, as a reminder that they are no longer their own individual person. The Handmaids, like all the women in Gilead, are also required to wear a long, loose dress, with a specific color indicating their function in society. The Handmaid's wear red, representing "the blood of parturition, but also from Mary Magdalene" (Atwood xvii), as stated in the novel's foreword. Mary Magdalene is known in multiple biblical contexts such as "the prostitute whose business was so profitable that she could spend a fortune on costly oils" and "the repentant sinner whose penitence was as measureless as her sin" (Maisch ix). The handmaid's are also required to wear white bonnets known as "wings" that prevent them from seeing and being seen, another way in which the government attempts to rid the handmaid's of freely expressing their identity.

Handmaids are subject not only to the law of Gilead and the Commanders for which they are assigned, but also to the disparagement of the Wives, married to the highly-ranked Commanders, who wear lavish blue dresses instead of red, and, are not required to wear a white hair and face covering. The Wives have slightly more freedom than the handmaids, including the ability to speak freely with other wives, drink and indulge themselves socially; spending their days lounging about the house and garden, they are in charge of the handmaid's, often treating them with resentment. However, it is important to understand that the wives must play this role as they are subject to witnessing their husbands infidelity to follow the scriptural basis that is the law of Gilead. Serena Joy, the wife of the house Offred is assigned, does so fairly regularly and makes her disdain apparent as Offred explains in chapter 3; "She doesn't speak to me, unless she can't avoid it. I am a reproach to her; and a necessity" (Atwood 13). Although the wives have mere luxuries compared to the emptiness of the Handmaids, they are still representative of the misogyny rampant in Gilead. They represent the idea that even the highest class of women will still be hegemonized in a patriarchal society. This is because, historically, the patriarchy maintains control over all women, even those in

positions of privilege. The wives only have their status because of the statuses of their husband, without marriage tying the wives to the commanders, they would potentially be in the same position as a handmaid or *economives*.

Besides the Handmaids and the Wives, there are the wives of poorer men known as the *Economives* who wear stripes, the Marthas, who are typically servants and caretakers for the wealthier families; they wear green, and even the Aunts, the women in charge of re-educating the Handmaids and executions wear dark brown dresses. There is also the “Unwomen”, these are those women deemed unfit for one of the aforementioned categories including, older, unmarried women, lesbians, or, “Gender Traitors,” as the book refers to them, nuns, infertile women, or, essentially anybody who questions the Gileadean rule. These women are sent to the Colonies, which are forced labor camps with conditions so bad it was a death sentence altogether; “You could get me transferred. To the Colonies. You know that. Or worse” (Atwood 162)

The political landscape of the 21st century is seemingly reverting to the governmental ideals similar to those of *The Handmaid's Tale* as the U.S. continues to elect white, Christian nationalists, whose desire is to make America a solely Christian nation, and misogynists into its political offices, aggravating the already resistant patriarchal structures our country is built upon. *The Handmaid's Tale* is viewed as a precaution to what society would look like if we continue to allow those who aim to suppress women and strip away their bodily autonomy to control our government. When *Roe v. Wade*, the 1973 court case legalizing abortion in the U.S., was overturned in 2022, granting individual states legal control over the parameters for abortion access, many began to wonder how it could be possible that there are now fewer rights for women and pregnant-people than the mothers and grandmothers who fought for these rights. This alone turns having hope for the country into an extremely burdensome task as the sanctity of women's rights are at stake. In anticipation of four more years of Donald Trump's presidency it is vital to consume as much art, literature, music,

media, and education as possible, while it is still accessible. Totalitarian governments, like Gilead, assert their power and push their agenda by restricting access to anything that could be considered dissent to the ideology of the government. *The Handmaid's Tale* is one of the most forthcoming and controversial pieces of feminist literature of the last two centuries that blatantly calls out the aforementioned ideals.

By drawing parallels between aspects of Gileadean law and oration and a vast array of historical and modern examples of Christian fundamentalism, totalitarianism, and the oppression of women Atwood has procured to develop the course of her novel, I intend to apply both a historical and feminist theoretical approach in writing this paper. I will examine the historical instances of the unlawful enslavement and persecution of women as a result of patriarchal structures that use religion as the basis of its morale. This includes examples dating as far back as the 1600s, through present day. As well as, the more specific historical examples Atwood drew from to institute facets of life in Gilead including the Puritan and totalitarian nature of the government, the strict control over childbirth and women's bodies, the Ceremonies, and the execution and exilement of those who contest the law of the regime. Atwood creates an apparent systemic structure of society in Gilead, one that is not unrealistic to occur in the real-world. My goal for this paper is to craft a detailed analysis of the events Atwood drew from to present a detailed examination of how patriarchal systems will continue to void women and others from individual freedoms so long as figures with intrinsically religious and totalitarian views rise to power.

As Gail Pheterson writes in her 1986 journal article, "Alliances between Women: Overcoming Internalized Oppression and Internalized Domination," she states, "*Solidarity* is knowledge of, respect for, and unity with persons whose identities are in certain essential ways common with one's own" (149). Many works of feminist literature from novels, to essays, to poetry emphasize the idea of women standing in solidarity with one another, in particular, women who are

ostracized by society for behavior that defies societal expectations. These women understand the importance in grouping together to strengthen their resistance. Atwood succinctly examines this idea of solidarity in *The Handmaid's Tale* under the guise of Offred and Ofglen's relationship and their association with the Mayday resistance. As well as the use of the mock-Latin phrase "*Nolite te bastardes carborundorum*," which translates to "Don't let the bastards grind you down" (Atwood 187), a phrase Offred discovers etched into the wooden closet of her room at the Commander's house by the handmaid who previously resided there. Before discovering what this phrase means, Offred uses this as her mantra, silently repeating the words to herself as a means of defiance and to form a bond with the handmaid that came before her. Although Atwood did not invent this phrase, its appearance in her book made it into a rallying cry and hashtag for global feminists movements, some women going as far as getting the inscription tattooed on their bodies. In a 2017 interview with Time Magazine, Atwood states, "I'll tell you the weird thing about it: it was a joke in our Latin classes. So this thing from my childhood is permanently on people's bodies." Though extreme, the phrase, *nolite te bastardes carborundorum*, has sparked my motivation for writing this paper. If a made up Latin phrase can ignite a feminist revolution for the refusal to accept a life and actions upon us we did not choose ourselves, then I can certainly write a paper in solidarity and alignment with those movements as an act of self-determination as we enter the potentially formidable circumstances of the future.

The Republic of Gilead is deeply rooted in religious dogma as the basis for many of its laws. The authorities of Gilead selectively use and misinterpret biblical scripture to justify those laws which demean women and strip them of their rights. Atwood's chief inspiration for the foundation of Gilead's way of life can be traced back as early as 17th century Puritanism during "the English Reformation, when the Church of England separated from the Catholic Church" (Valková 18). Many who broke away from Catholicism during this time sought to 'purify' any religious views or

rituals closely aligned with the Catholic Church. Valková outlines five core principles Puritans applied as they determined how they would conduct their religion which coincide with the theocratic nature of Gilead:

- 1) “God was at the heart of their lives, and he was the driving force behind all they did;” 2) “Their philosophy was based on the New Testament, and their dedication was so strong that it swept across society;” 3) “Those who refused to convert their theological views to that of the Puritans were ordered to leave their communities;” 4) “Women were not allowed to vote or make any decisions in the church; they were only allowed to be at home or in the garden;” 5) “Puritans did not agree on many compromises since they were persuaded that they were doing God’s work. Those who deviated from God’s plan were subjected to severe punishment” (18).

As clearly shown in *The Handmaid’s Tale*, God and religion are the epicenter of life in Gilead. Phrases such as “Blessed be the fruit,” and “Under His Eye,” are repeated as greetings between the Handmaids throughout the novel. “Blessed be the fruit” highlighting the value of the Handmaids as the vessels of reproduction in Gilead, as their worth in society is determined by their ability to bear children for the social-elites. Another common exchange, used as the standard farewell between citizens of Gilead is “Under His Eye,” a phrase which characterizes the idea that the citizens of Gilead are always under the watchful eye of God, and the ever-present surveillance of the regime. This is also an explanation for why the Handmaid’s are required to travel in pairs. The handmaids are assigned a partner to accompany them during their daily tasks, however, they are not to form loyalties or friendships with their partner as the true purpose of the pairing is for both handmaids to spy on one another. Offred says of her partner, Ofglen, “We aren’t allowed to go there except in twos. This is supposed to be for our protection, though the notion is absurd: we are well protected already. The truth is that she is my spy, as I am hers,” (Atwood 19). Although Offred questions

Ofglen's loyalty to the regime she remains silent; "She may be a real believer, a Handmaid in more than name. I can't take the risk," (19). The use of required exchanges of phrases also implies the complicity the women of Gilead are expected to have when conducting their daily routines.

The law of Gilead is derived from both Old and New Testament teachings, consistently used as a structure for its totalitarian rule. However, biblical verses presented as law in Gilead are deliberately selected as the scriptural precedent. Predominantly, those statements referring to enslavement and the duty of women to be the only ones liable for reproduction; this is mentioned when Offred's doctor suggests the two of them have intercourse since her Commander is probably "sterile," a forbidden word in Gilead; to which Offred thinks, "There is no such thing as a sterile man anymore, not officially. There are only women who are fruitful and women who are barren, that's the law" (Atwood 61). Scripture which also subordinates the role of women in society is also stringently enforced as law in Gilead. Particular passages from scripture that degrade women are routinely referenced throughout the novel. For example, during the Women's Prayvaganza, a ritual used for arranged marriages between the daughters of the wealthy and military officials, known as Angels, the Commander in charge reads aloud a scriptural passage from 1 Timothy 2:9-15 essentially stating that women should submit themselves to authority and willingly present themselves silently and modestly without debate. Referring to the deceit of Adam and Eve, the Commander proclaims:

I will that women adorn themselves in modest apparel, with shamefacedness and sobriety; not with braided hair, or gold, or pearls, or costly array; But (which becometh women professing godliness) with good works. Let the women learn in silence with all subjection. But I suffer not a woman to teach, nor to usurp authority over the man, but to be in silence. For Adam was first formed, then Eve. And Adam was not deceived, but the woman being deceived was in the transgression. Notwithstanding she shall be saved by childbearing, if they continue in faith and charity and holiness with sobriety (Atwood 221).

This passage, read aloud for the handmaids, wives, daughters, and the women of Gilead to hear, is a reminder of the power imbalance in Gilead, that is, on the basis of sex and the use of ambiguous scriptural precedent as a means of subordinating women. Since the women of Gilead are restricted from reading and writing of any kind, including reading the Bible, it bolsters the idea of “an extremely patriarchal society that interprets the bible in exclusionary ways to reshape the nation according to their needs” (Tabuyo-Santa Clara 137).

When the government of Gilead came to power, anybody who resisted assimilation into Gileadean society was sent to forced labor camps known as The Colonies. To avoid this horrific outcome, the women of Gilead take on the pious behavior expected of them, being careful not to deviate from the Gileadean ideologies they are taught at The Red Center. Otherwise known as the re-education center, The Red Center, is where new handmaids are sent to learn how to be a handmaid and why their role is vital to a prosperous Gileadean society. The Aunts, the women in charge of re-education, use humiliating forms of emotional and physical abuse to alter the women’s perceptions of themselves and their previous lives, indoctrinating them with the laws they are required to uphold as the handmaids of Gilead. In one instance, Janine, a handmaid at The Red Center is placed in the center of the group and forced to testify her experience of being gang-raped as a teenager. When asked by the Aunts whose fault it was for this devastating occurrence, the handmaids, in response, are forced to chant, “*Her fault, her fault, her fault*” (Atwood 72). This is another way in which Gilead uses authoritarian means of control to manipulate women into believing their role in society is narrowed down to their ability to bear a child. However, most women’s complicity is simply an aid in their survival in The Republic of Gilead. As “Offred is savvy about how to live under the constraints of Gilead. She recognizes the social and power relations and conflicts that impinge upon her life,” (Stillman and Johnson 72). By holding onto both her complicity to the law of Gilead, as well as the memories of her previous life, Offred is able to

overcome the internalized oppression Gilead attempts to force upon its women in the conversion process. This is also beneficial in how solidarity is created between the handmaids, specifically between Offred and Ofglen. The re-education center instills fear into the handmaids to the point where they distrust one another, not truly able to determine who is a true believer and who is part of the resistance.

There is no doubt that in The Republic of Gilead women are treated as subhuman. Stripped of every aspect of their individual identity, the women of Gilead, especially the handmaids, have no voice, no ability to read or write, or make any decisions for themselves. The Wives, having few more freedoms than the handmaids and other women of society, do just as Puritan wives are expected to. “This garden is the domain of the Commander’s wife” (Atwood 12), Serena Joy, in particular, is commonly found here throughout the novel. The wives are supposed to be an example of upper class women in society, dutifully partaking in what the government forces upon them. On the contrary, men and women in Gilead who have defied what the law decrees, even prior to its establishment, face extreme punishment not only in being sent to The Colonies, but also in the form of hanging and other brutal punishments. “The Wall” is a place frequently visited by Offred and Ofglen on their daily walks. It is where men’s and women’s Salvagings take place. The Salvagings consist of an execution, led by the Aunts, and the person being executed has a bag placed over their head and is hung for their crimes against the laws of Gilead. Punishable crimes include rape, adultery, practicing a dissenting religion, practicing science, being homosexual, etc. During their first visit to the wall in chapter 6 of the novel, there are three men hanging at the wall each of which are wearing white doctor’s coats. This symbolizes their career prior to the rise of the Gileadean regime which they were punished for as they most likely conducted abortion procedures “when such things were legal,” (Atwood 32). Torture, and even death, as a punishment for defiling societal laws is

common of totalitarian regimes. It is essentially an extreme measure which Gilead uses to assert their dominance over its people as a reminder that they are in control.

Atwood's inspiration for the Christian fundamentalist ideology of Gilead is also derived from more recent instances of political dominance, including the presidency of Ronald Reagan. Reagan's association with the Christian right is, in many ways, a key influence in the configuration of Gilead. Reagan's alliance with Christian Evangelists and the New Right impacted his political agenda in a way that closely aligns with the agenda of the dystopian society of *The Handmaid's Tale*. Reagan's three main priorities for his campaign as they aligned with the Christian right were: "the denunciation of homosexuality, the fight against abortion and the rejection of the ERA (Equal Rights Amendment)," (Tabuyo-SantaClara 137). The polarizing sociopolitical climate of the Reagan campaign motivated many women to bolster their fight for reproductive rights. Although the right to be gay freely was not particularly intact at the time, abortion access remained mostly unscathed following Reagan's presidency. However, these regulations are parallel to those outlined in the law of Gilead including illegalizing homosexuality and abortion, as well as, the obvious notion of women having less rights than men.

In a totalitarian regime such as Gilead, birth rates are strictly monitored with the consideration of who is allowed to have children (in this case, who is able), who is not, and once a child is born under the regime, what is the government going to do with it? This is because totalitarian regimes, especially those rooted in religion, are interested in an increase in birth rates as a way to increase and control the ideological goals of the population. The process of reproduction in Gilead begins with the Ceremony. The Ceremony is the ritual which occurs between the Commander and the handmaid, however, the wife of the Commander is also present, with the head of the handmaid in her lap, the hands of her being held above her head by the wife. The purpose of the wife's presence is so that she can be one with the procreative process. Atwood created the idea

of these Ceremonies from Genesis 30 which tells the biblical story of Jacob, his wife Rachel, and their servant Bilhah, who becomes a surrogate for them. The Commander reads from this passage prior to the first Ceremony in the book in which he reads, “*Give me children, or else I die. Am I in God’s stead, who hath withheld from thee the fruit of the whom? Behold my maid Bilhah. She shall bear upon my knees, that I may have children by her,*” (Atwood 88). The use of this passage is yet another way the government selectively uses scripture as an overarching law to control women’s bodies in what is, essentially, state-sanctioned rape. Atwood specifically developed this idea of giving up your children to the ruling class from the 1976 military junta in Argentina when nearly 500 infants and children were abducted from their homes, their parents', opposition voices to the Argentinian government. Pregnant women were also abducted during these raids, being forced to give birth under humiliating circumstances, similar to Jenaine’s birthing scene in the novel where she is obligated to give birth in front of all the women of her district including the handmaids and wives. After giving birth, the babies of the Argentinian mothers “were usually handed over to individuals within the security forces or their friends,” (Penchaszadeh 292). These controlling and humiliating circumstances in Argentina are closely linked to those of Gilead, where the handmaids are forced to witness their child be ripped from them immediately after giving birth and handed over to upper class wives and families.

Pregnancy and childbearing being the central part of the sociopolitical climate of a society is not exclusive to the fictional society of Gilead. Atwood also takes inspiration from Romania during the dictatorship of Nicolae Ceausescu and the implementation of Decree 770. During the mid to late 20th century, birth rates in totalitarian Romania were declining. Abortion access was prohibited up until 1966 which marks a “brutal and unexpected rupture: the complete ban on abortion,” (Lucian 126), by Decree 770 which also banned the use of contraceptives. Ceausescu closely monitored pregnancies which became a central effort in Romania during the time. Similarly to Gilead, where

the impregnation of the handmaids is at the forefront of society. Another parallel between implementing Decree 770 and the events of *The Handmaid's Tale* is the use of divorced women, or single mothers to become concubines for upper-class families, which the role of the handmaids of the novel mimic in certain ways. Communist Romania abolished their main means of fertility control: abortion—as does Gilead. Gilead implores a religious context to its actions, which are simultaneously used as justification for forcing women to be impregnated and carry children for the wealthy.

The women of Gilead are routinely forced into sexual submission by the authorities that continue to value their body over their identity and indoctrinate them with extreme Christian ideals. Despite the indoctrination, some handmaids form an opposition group known as the Mayday resistance. The term “Mayday,” is referred to in exchanges between Offred who discovers its existence from Ofglen, “So you can tell who is and who isn’t,” (Atwood 202) she says, referring to who is and isn’t apart of the underground network known as the Mayday resistance. Interestingly enough, Margaret Atwood used the Underground Railroad as her influence for this resistance. Although there isn’t much said of the resistance itself, including who all is a part of it, how the function, and what their plan is, it is similar in such a way as it aims to defy the rigid government control of Gilead through a network of connections.

Reading *The Handmaid's Tale* as our political atmosphere shifts to the possibility of this incredibly raw and thought-provoking book being taken away has left me with one goal in mind: to not remain silent, particularly on feminist issues as the infringement of government could affect my rights, the rights of my mother, sister, female friends, future daughters, and women whom I do not know. This novel deepened my understanding of how totalitarian regimes function in a way that aims to suppress not only voices of dissent, but also women; by controlling their individual rights and freedoms, their bodily autonomy and reproductive rights. The dystopian society known in

Atwood's work as Gilead is the ideal example of what society would look like under the guise of extreme Christian fundamentalism. This novel fictionalized an amalgamation of real historical events that prove Atwood's assertion of her novel being speculative fiction.

Atwood's *The Handmaid's Tale* draws inspiration from the most religiously indoctrinating, totalitarian regimes in history. Her in-depth research of the sect's main characteristics in order to accurately apply them to a work of fiction gives her novel an eerily truthful undertone, which was her ultimate goal: to write the truth. It is no doubt that depictions of *The Handmaid's Tale* are used in feminist rallies and in displays of anti-abortion resistance. This goes to show just how realistic and horrifying the outcomes of the society her novel examines truly are.

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Philosophy and Religion II

Vincent Jericho Elope
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Mentor: Professor Mark Altschuler

Title: “The Evil Decay Within: Moral Decay and ‘A Good Man is Hard to Find’”

Judge’s comments: I really loved Vincent Elope’s presentation and his paper. The paper made me order the story on Amazon and between listening to Flannery O’Conner and reading Vincent’s paper, I really started thinking about the nature and possibility of redemption. Also, the choice of images in the PowerPoint was excellent. A fine presentation.

Dr. Keith McPartland

The Evil Within: Moral Decay and “A Good Man is Hard to Find”

Mid-20th century Southern Gothic literature can be likened to a historical window into a society in ruins, where every story is akin to a cultural memory of the Old South bearing the scars of post-Civil War trauma. The genre highlights a legacy of slow, painful collective deterioration evident in scenes of impoverished shacks along desolate roads, to lost souls frozen in nostalgia for a past that had withered away. Flannery O'Connor, arguably the most important pioneer of Southern Gothic, explores this raw physical, moral, and social decline through a Christian religious lens, laying bare the flaws of broken people trapped in dysfunctional communities and cultural systems. No better is this expressed than in O'Connor's award-winning 1954 short story “A Good Man is Hard to Find” which can be considered an exposé and criticism of everyday civil facades and moral failings thinly veiled by a superficial sense of piety. More than just a critique of the South, however, the story effectively functions as a universal wake-up call, confronting the dangers of complacency, moral apathy, and the human tendency to evade uncomfortable truths until it is too late.

To begin, Flannery O'Connor's writing and prose are heavily influenced by her religious beliefs and upbringing, which are necessary to examine in order to provide context for her biblical allusions and metaphors. Born on March 25, 1925, in Savannah, Georgia, Flannery O'Connor grew up in the heart of the southern Bible Belt, where religion was embedded into the fabric of everyday life. When talking about the South, Flannery O'Connor also writes herself that it is most certainly “Christ-haunted” (“Some Aspects of the Grotesque” 3).

Considered one of the most influential American writers of the 20th century, O'Connor's writing is marked by grotesque, exaggerated characters, violence, and many references to biblical figures and Christian theology (Wilson 97). In *Flannery: A Life of Flannery O'Connor*, Maryat Lee is quoted as saying that O'Connor's words had “theological overtones” and that she was very invested into being a religious Catholic (Gooch 243). Therefore, considering the prevalence of biblical

references within O'Connor's stories, it is reasonable to suggest that one of the best ways from which to interpret her writings would be through a theological perspective, in the attempt to distill her abstract ideas into a more conventional sense.

O'Connor's short story, "A Good Man is Hard to Find," follows a self-righteous grandmother and her family on a road trip to Florida. After a car accident caused by the grandmother's own recklessness, the family encounters an escaped convict known as the Misfit who proceeds to capture and systematically murder them. Right as the grandmother is about to be the last one killed, she experiences a brief moment of enlightenment, before being shot.

In finding an interpretation for "A Good Man is Hard to Find," even perhaps prior to any further in-depth analysis, it would be prudent to examine the title itself to find its connection to the central themes of the story. For this context, Flannery O'Connor deliberately creates characters who are dramatically flawed to point out the inclination to selfishness and moral weakness within all human beings—in other words, implying that completely pure, virtuous, "goodness" is incredibly rare, and what is instead prevalent is a performative, superficial façade that represents some kind of ingenuine selfishness.

This is perhaps most apparent in the main character of the grandmother—who is portrayed as ignorant, racist, and hypocritical despite her wanting to display a traditional and "proper" outward face. In one instance, she mentions, with respect to an impoverished-looking black child, "little niggers in the country don't have things like we do" (O'Connor, *A Good Man* 35). Furthermore, the children of the story, June Star and John Wesley, are spoiled, undisciplined, and are portrayed as nuisances, referring to Tennessee as a "hillbilly dumping ground" and Georgia as a "lousy state" (O'Connor, *A Good Man* 35). Even a side character such as Red Sammy Butts, also known as Red Sam, owner of a quick stopover barbeque joint known as The Tower, is callous and dismissive of

people, including his own wife, stating “It isn’t a soul in this green world of God’s that you can trust” (O’Connor, *A Good Man* 37).

Perhaps the only two characters of the story who are not atypical from the reader’s point of view are Bailey, the grandmother’s son, and his wife. However, these two lack the ability and the assertiveness to exert any kind of influence on the others, and their inaction in holding their families accountable implicates them as well. On this note, it can be said that O’Connor suggests that moral failure is not just only active ignorance and wrongdoing, but also the unwillingness to confront it. This inner corruption, the result of some fundamental flaw, rather than any particular character, can actually be considered the “true” antagonist of “A Good Man is Hard to Find.” In more specific terms, the primary destructive force that pervades this entire story can be said to be a lack of critical introspection. In the religious context, this is the sin that all characters within the story are perpetuating. Thus, not only is it implied not to take O’Connor’s writing as a literal set of events, but rather to view it as a form of a parable or a religious story criticizing an aspect of society. For an exaggerated, grotesque interpretation, which arguably fits the violent nature of O’Connor’s stories, this sin can be considered a nuance of “evil”.

However, it must be emphasized to recognize that in spite of the characters’ shortcomings in the story, their flaws are still uniquely human. Flannery O’Connor creates an exposition where the characters are not necessarily just one-dimensional caricatures of moral failings but rather as mirrors to the everyday ignorance and complacency of people. It is entirely plausible that an old grandmother, of declining self-awareness and mental faculties due to age, would inevitably demonstrate some type of ignorance. Therefore, the “evils” in this story are, once again, quite mundane in reality: selfishness, ignorance, and negligence—banal in nature, qualities to which any person is susceptible.

The catharsis through which many of O'Connor's characters go through in their violent and often brutal climaxes is arguably central to interpreting her work as a criticism of societal apathy. Though at first it may seem incredibly hyperbolic, "exorcism" is perhaps an exaggerated, yet arguably appropriate term that encapsulates the intense, violent Christian themes underpinning O'Connor's literary apexes. *Exorcism*, for context, is generally defined as an "adjuration addressed to evil spirits to force them to abandon an object, place, or person" (*Britannica*). In a completely literal sense, it should be noted that there are no truly malicious or evil spirits that can be said to haunt any of the characters in "A Good Man is Hard to Find" like that of the traditional depiction of a Biblical demon or ghost.

What is more important, however, is the general mechanism through which an exorcism operates. The definition of an exorcism implies the expulsion and/or removal of supposedly evil spirits—in other words, an endeavor to bring a person back to a state of spiritual balance. From this interpretation, an exorcism can be said to have three main parts: the identification of an undesirable or corrupting influence, a moral confrontation required to address it, and, if successful, the return to a state of social harmony. The caveat, however, is the existence of Christian overtones and a secondary implication of what is likely to be a raw, violent, and perhaps gruesome spiritual confrontation. In the case of O'Connor's writing, especially in "A Good Man is Hard to Find", this structure can be said to strongly resemble how the story is organized.

Recognizing the Christian spiritual theme in the idea of an exorcism, one can colorfully interpret O'Connor's characters as having been "possessed" or slowly corrupted by apathy and a lack of self-awareness. On this note, it may be supposed that the family in the story was not originally born to act in such an ignorant manner as depicted in "A Good Man is Hard to Find", but rather, among some other factors, many of the characters were simply by-products of their local

cultural environment. What this implies, however, is not just a problem pertinent to a single individual, but rather a notion of moral decline applying to a broader society as a whole. The philosophical need for such a confrontation of decline in O'Connor's structure can be expressed through an analysis of the Old Testament of the Bible. In *God as a Man of War: The Problem of Violence in the Old Testament*, Stephen De Young writes that the Old Testament portrays the concept of *sin* "less a judgment cast upon an action than a poison or a deadly disease," and that purification of said sins "was a battle with life-and-death stakes" (49). In this context, "sin" is akin to a slow poison to the soul, one that, if left unattended, has the potential to corrupt and destroy an individual. Likewise, using this interpretation, "A Good Man is Hard to Find" becomes less of a typical highway murder and more of a criticism of the corruption and cultural decay festering at the root of a broken society—problems that, by moral necessity, must be addressed for the sake of everyone's well-being.

Like the Old Testament itself, which does not spare its reader from the idea of a brutal, righteous God who delivers justice and redemption to the unfaithful in often gruesome and violent ways (De Young 143), neither does "A Good Man is Hard to Find" with Flannery O'Connor. This analysis of brutal Old Testament punishments, thus, provides important contextual background when attempting to reason the violent judgment of religious and moral wrongdoings in O'Connor's writing that begs the necessity of such an exorcism of banal character flaws. Here, the purpose is not to punish or execute a character for their failures, but rather as a public lesson in accountability, a moral instruction meant to deter spiritual violations and to provoke a reader to self-reflect and caution themselves in their own way of life. It is effectively a literary galvanization.

Considering this purpose, Flannery O'Connor could be said to be writing as a way of drawing attention moral and social norms—by showing characters be visibly "exorcised" for their everyday ignorance, it prompts the reader to critically evaluate their own morals on a personal level.

By doing this, O'Connor also implies a belief in what can be described as a natural drift by society towards disorder and entropy without the intentional maintenance of spiritual and civil boundaries through a corrective force.

The sheer violence of O'Connor's story in "A Good Man is Hard to Find" can thus be interpreted as a way to reinforce vigilance and discipline in ethical behavior through the notion that there exists some universal form of "goodness" or morality outside of religious facades and superficial social norms. In the case of the family of the story, especially the grandmother, their deaths can be considered a punishment from God for failing to adhere to benevolence and for practicing faith that existed only in platitudes.

The main vehicle for this punishment in "A Good Man is Hard to Find" is in the form of the Misfit, who functions to bring justice and deliverance to the characters of the story. Historically, Christianity and religion has been linked to various forms of violence, one being primarily the idea of a *holy war* which is designed to violently enforce religious virtues and ideals (De Young 93). Ironically, though the Misfit is an escaped convict, serial criminal, and nihilist, he is portrayed as civil and inquisitive about the nature of faith, unlike the grandmother, whose religious worldview shatters against the Misfit like a wave against the proverbial solid rock.

Counterintuitively, the Misfit appears to exist outside of this notion of morality. Rather, it can be said that the construct of ethics and "goodness" that has been established can be entirely violated by the Misfit—a person with no apparent regard for law, order, and/or religious virtue. However, the Misfit can be interpreted not as an existential violation of this already-established moral discipline across the story, but as a cosmic enforcer of it. In this regard, the Misfit is a force of nature; an agent of divine reckoning that exists solely to make the grandmother expose and confront her own moral blindness and spiritual failings. In a metaphorical sense, by stripping away the grandmother's hypocrisy, exposing her moral weakness, and forcing her to demonstrate her

superficial piety, effectively “exorcising” her in an uncomfortably raw manner, the Misfit, in a very paradoxical way, serves as the actual “exorcist” of the story. In a spiritual confrontation of all the grandmother’s flaws, the Misfit highlights the very banal evils pervading everyday culture and customs, all while echoing the Biblical theme of a trial of faith.

Building upon the Biblical context of trials of faith, in the Old Testament, the story of Job can be considered to have plot elements very similar to “A Good Man is Hard to Find.” In this Biblical story, the character of Job has been arbitrarily punished by God and made to suffer despite living a good and righteous life. The infliction of suffering, in this context, is considered a test from God. As progressively worse and worse things happen to Job, he continues his worship of God despite having lost nearly everything in his life and is eventually rewarded for his unyielding faith by returning to a comfortable life (*New International Version*, Job). On the other hand, as progressively worse and worse things happen to the grandmother in “A Good Man is Hard to Find,” her shallow faith is revealed as she begins to desperately beg for her life.

Furthermore, in the Old Testament, the Book of Psalms, Verse 1 is written the following in regards to the faithful and the unfaithful:

- 1 Blessed in the one who does not walk in step with the wicked or stand in the way that sinners take or sit in the company of mockers,
- 2 but whose delight is in the law of the LORD, and who meditates on his law day and night.
- 3 That person is like a tree planted by streams of water, which yields its fruit in season and whose leaf does not wither—whatever they do prospers.
- 4 Not so the wicked! They are like chaff that the wind blows away.
- 5 Therefore the wicked will not stand in the judgment, nor sinners in the assembly of the righteous.

6 For the LORD watches over the way of the righteous, but the way of the wicked leads to destruction. (Psalm 1.1-6)

The essential point communicated between these biblical excerpts is that genuine faith is something stands a rigorous trial. It is not an instance of belief at a single point in time, but rather a consistent performance of good deeds.

What is particularly important to consider in this context is O'Connor's faith as a practicing Catholic. The Southern United States has historically been of a Southern Protestant majority, which practiced Christianity with a key distinction from traditional Catholics: A Protestant worshipper is already saved—guaranteed to go to heaven by a belief in Jesus Christ the savior alone. Conversely, the Catholic belief in salvation requires sanctification, or the “accumulation” of grace; a lifelong process of avoiding sin and performing good works, where salvation is determined only at the moment of death.

Grace is defined as the “spontaneous, unmerited gift of the divine favour in the salvation of sinners, and the divine influence operating in individuals for their regeneration and sanctification.” (*Britannica*, “Grace”). In Christian theology, grace is God's unmerited favor and love, given freely without being earned or deserved. It is a supernatural force said to enable spiritual growth, moral change, and a renewal of purpose. In a non-religious context, it can be better described as a profound epiphany of deep moral insight and self-awareness; an enlightenment to a fundamental truth.

On this note, it should be emphasized that the final step of an exorcism as previously defined does not result in the total destruction of the subject; rather, it results in a restoration of a soul to a spiritual and moral equilibrium. In the context of “A Good Man is Hard to Find”, this can be said to happen through the transformative power of “grace,” though with a particular caveat in

mind: the moment of grace can be seen at the end of the story when the grandmother has a sudden change of heart despite being isolated, exposed, and faced with the immediate threat of death:

“Why you’re one of my babies. You’re one of my own children!” She reached out and touched him on the shoulder. The Misfit sprang back as if a snake had bitten him...”

(O’Connor, *A Good Man* 45)

The grandmother, despite all her supposed failings, is enlightened to a connection in the essence between herself and the Misfit, effectively humanizing what had originally been described as force of nature. Through an act of grace, the grandmother reclaims the part of her soul that had been originally blinded by ignorance. Unfortunately, it is too late to save the grandmother’s life, and she is still murdered by the Misfit.

Like the Old Testament’s description of the wicked, the grandmother in “A Good Man is Hard to Find” is literally and figuratively blown away by the Misfit. Essentially disgusted with her final act of attempting to call him one of her own children and trying to touch him, the Misfit shoots the grandmother three times in the chest, killing her. By exposing the grandmother’s lack of authentic faith and rendering what could otherwise be considered a divine punishment, the Misfit can be considered both an act of God and an instrument of his judgment.

However, while it can be said that “A Good Man is Hard to Find” can be interpreted as a metaphorical exorcism of accumulated moral weaknesses from within, it is also best to consider the nuances that this interpretation is made with. Once again, the “evils” spoken of are ones encountered in everyday life, not as particularly sinister or malicious entities, but rather entropic forces manifest as moral blindness, prejudice, and apathy.

While grace carries a holy, restorative connotation, one should consider the implications of how O’Connor implements the mechanism for it in her stories. In “A Good Man is Hard to Find”, if the sudden change in behavior in the grandmother prior to her death was to be interpreted as an

act of grace, it may be confusing, even counterintuitive to suggest that such a restorative act should result in the death of a person. However, this can be explained as a literary device running parallel with the standard narrative conventions for a tragedy or Gothic literature, where fear and horror are used to incite strong reactions from the reader. O'Connor explains the philosophy behind this writing style:

When you can assume that your audience holds the same beliefs you do, you can relax a little and use normal means of talking to it; when you have to assume that it does not, then you have to make your vision apparent by shock—to the hard of hearing you shout, and for the almost-blind you draw large and startling figures. (O'Connor, *Mystery and Manners*, "The Fiction Writer and His Country")

When examining the story from this perspective, it can be seen that Flannery O'Connor's story becomes less of a fire-and-brimstone sermon but more of a dramatic warning to the layman. This is expressed by O'Connor to be due to the innate human resistance to grace, to change, to critical self-reflection and development. Indifference, and apathy thus, is what O'Connor's writing style seeks to overcome, by using sensationalist tools like violence, horror, and the grotesque to elicit a strong and attentive response to her words.

By having characters like the grandmother suffer in quite horrific and gruesome ways, it forces the reader to confront an uncomfortable reality—that maybe, in a unique and personal way, the reader is also similar, and seeing such characters writhe and be humbled in their struggles once again creates an extended sense of accountability. Perhaps Flannery O'Connor's voice speaks through the Misfit when he is quoted for the following statement:

"She would of been a good woman," The Misfit said, "if it had been somebody there to Shoot her every minute of her life." (O'Connor, *A Good Man* 46)

Essentially, if the grandmother had lived her life with the awareness and introspection she had moments before her death, she could have been a better person. The tragic observation that the Misfit makes, is that the grandmother required a constant threat to behave well. O'Connor is warning that most people, especially those who see themselves as good or righteous, should take a moment to self-reflect and critically evaluate whether their morality is truly genuine or merely a façade.

Ultimately, "A Good Man is Hard to Find" stands as both a haunting reflection of the slow decay of moral values and a broader warning against the danger of ignorance. O'Connor strips away the polite veneers of a broken culture mired in false civility and exposes a world where moral complacency leaves individuals vulnerable to their own downfall. The story is not just a religious allegory, but rather a stark reminder that moral integrity demands more than just a superficial adherence irrespective of any religious doctrine, moral system, or cultural standard. Instead, it communicates the necessity of a genuine, purposeful alignment with values—the courage to practice integrity in the pursuit of sincere expression. The sudden brutality and violence of the ending serves as an undeniable word of caution: that those who refuse to confront their own blindness may not recognize the truth until it is staring them in the face.

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History II

Francesco Maneri
Bergen Community College
Mentor: Dr. Sarah Shurts

Title: “Divided Inside: Examining the Failings of Nationalism Before & After the Unification of Italy”

Judge’s comments: A mature, focused and convincing paper that explores the paradoxes of nationalism and how that impacted the unification of Italy. Utilizing the theories of Benedict Anderson, Edward Said, and Nelson Moe, Maneri successfully demonstrates how despite the rhetoric of unity and inclusion, the reality of unification consolidated existing political and economic hierarchies that continued and exacerbated the domination of the northern regions over the south of Italy including Sicily. A wonderful example of a project that is inspired by today's headlines and seeks to consider the trends, ideologies, and histories that have brought us today’s struggles and problems An excellent paper on Italian nationalism!

Dr. Magnús T. Bernhardsson

Divided Inside: Examining the Failings of Nationalism Before and After the Unification of Italy

In recent years, there has been a resurgence of nationalism within the sphere of global politics. From Britain's withdrawal from the European Union to the rise of far-right party prevalence across Europe to the divisive partisanship on display in the United States, the echoes of nationalist rhetoric can be heard once again promising unity, belonging, and the restoration of national greatness. Indeed, such parties invoke national pride as a rallying cry, framing their nations as homogenous communities with shared histories, values, and destinies. Consequently, supporters of this rhetoric often view it as a path to reclaiming political sovereignty and protecting cultural identity from perceived threats of globalization, immigration, or economic precarity. Infamously, this is the ideology that gave life to Nazi Germany, carried out by the methodology that Edward Said called 'othering' in 1978 (Said); the process by which a dominant culture distinguishes itself only by perceiving an inferior other, and utilizes tactics to make that distinction felt. By all accounts, it is clear that the function of nationalism is most effective when it relates to external entities, both legitimate and, unfortunately, perceived.

Yet, what can be said of the virtue of nationalism's ability to bring a group of people together in the absence of foreign threat? As history reveals, it often fails to deliver on its unifying promise in this context. Instead of fostering unity, nationalism reinforces existing divisions, creating hierarchies among the very people it claims to unite. The presence of nationalism creeping into contemporary politics underscores the urgency of understanding how and why nationalist projects falter, particularly when they claim to unify disparate groups within a single national identity.

While I recognize that such a promise of unity is compelling in theory, the tension between nationalist ideals and its practical outcomes is what drew me to question its effectiveness. History is replete with examples where this promise remains unfulfilled. Rather than smoothing over social, economic, and cultural differences, nationalism often amplifies them. It demands conformity to a

singular identity that is rarely attainable or inclusive. In this paper, I examine how this applies in the case of Italy's formation, where nationalism's failure is particularly stark. The unification of Italy in 1861 is often celebrated as a triumph of nationalist ambition, but it is also exemplary of the limitations of such projects with insidious roots. Undoubtedly, the 'Southern Question' has been a persistent divide between Sicilians and Northern Italians that still reverberates today, illuminating how nationalistic projects fail in unifying people of the same nation, and have historically reinforced social, economic, and cultural disparities, undermining the ideal of a true unity.

As a theoretical framework in which Italy's nationalistic venture throughout the 1800s can be dissected, I rely on the work of Benedict Anderson, primarily his insights offered in *Imagined Communities: Reflections on the Origins and Spread of Nationalism*, to stipulate the criteria that most nationalist projects often meet. According to Anderson, national identities are socially constructed rather than naturally occurring (Anderson, p. 7). They often rely heavily on a created sense of belonging and unity among individuals who, for the most part, will never meet one another. He posits a nation is "an imagined political community" one that exists in the minds of its members who perceive themselves as part of a collective, regardless of how many people are actually involved. This imagined quality of nationhood underscores the notion that the boundaries of a nation are not necessarily defined by geography, ethnicity, or shared history, but by the collective imagination that binds people together under the banner of a common identity.

If one accepts that nations are in fact imagined, it follows that inclusion requires exclusion. For a nation to define who belongs within its boundaries, it must also define who does not belong. Such a logical formula aligns with the process of 'othering'— a concept popularized in *Orientalism* by Edward Said, in 1978. According to Said, othering is a tool of power and control used to justify some form of domination (Said). Often, this is done through a discursive framework that portrays the other as 'backwards' or 'wrong' through cultural media, art, and scholarship. While such tactics

are often used between nations at large, I argue that they are equally as effective when used amongst people of the same nation. While Said's work focuses on the ways in which Western powers otherize the East by constructing it as a cultural, political, and moral opposite, his theories, too, can be overlaid on the case of Italy.

It is often assumed that the divide between Northern Italians and Sicilians emerged after 1861, as a result of residual hostilities concerning unification. However, I find it evident that the division was already prevalent prior to unification, and was embedded in the nationalist movement that would eventually lead to that unification. When, then, did this division originate? Undoubtedly, it arose in the decades preceding the Italian Revolutions of 1848, when northern elitists set their sights on the south in the mid-1820s, after becoming interested in the concept of Italy as a land that could be conceived as a nation (Moe, p. 85).

As pointed out by Nelson Moe in *The View from Vesuvius: Italian Culture and the Southern Question*, the likes of historians, painters, novelists, and political thinkers displayed through their work a desire to develop a unifying bond between the realities of diverse regions (p. 85). Mainly, it was the southern Kingdom of the Two Sicilies that, up until then, was thought to be the most distant and distinct from the mainland. With the emergence of nationalistic visions within the bourgeois class in Northern Italy, the South suddenly became more desirable, and elitists in talks began shaping its prospective future (Moe, p. 86). Primarily, the Italian bourgeoisie sought to consolidate its economic and cultural power. This rising class of landowners, merchants, and industrialists framed their own values as the model for 'modern Italy' and contrasted those values with the perceived 'backwardness' of the South (Moe, p. 86). By imagining the South as simultaneously picturesque and primitive, romantic and regressive, the Northerners were able to frame the South as a place in need of reform, which would later be used to justify their dominance in the post-unification era; this is what Moe refers to as imaginative geography (Moe, p. 85).

I find the concept of imaginative geography closely related to Said's theory of othering, which argues that dominant powers create symbolic geographies to justify control over othered populations. As seen in Italy, Northern Italian elites crafted a symbolic map that distinguished the North as one thing and the South as another. Certainly, this imaginative process was not a natural development but an active one. In my judgment, this conceptual border did more than just define a geographical limit; it conjured an ideological divide that has haunted the Italian national consciousness until today.

It was not enough for Northerners to ideate about what it would mean for Italy if they were to acquire Sicily—they needed to effectively spread this system of ideas in order to actualize it. Primarily, Northern Italians began to spread their message through print-media. As pointed out by Anderson, this was a necessary medium when attempting to fabricate nationalism (Anderson, p. 56). Through newspapers and journals like *Antologia* and *Cosmorama pittorico*, the Northern populace learned how to think of the South, which featured depictions of southern Italy as a picturesque land of quaint rural traditions and spectacular natural landscapes (Moe, p.85). While this description might seem positive, I believe in choosing to highlight the natural beauty of the region, Northerners were primed to believe that it needed to be saved from 'backwards' Sicilians when the time came.

For instance, Tuscan writer, Francesco Forti, who often wrote for *Antologia* from 1826–1832, said “The beautiful island of Sicily, which we commonly call the breadbasket of Italy, has been celebrated since ancient times for the fertility of its soil and its commercial prosperity. Yet it currently finds itself in conditions I would almost describe as dismal” (Moe, p. 89). Forti's words demonstrate how Sicily was simultaneously praised and denigrated. Though he goes on to acknowledge that the economic struggles of Sicilians were not due to their inherent laziness but rather lack of capital and institutional failures, Forti still believes their problems to be their own. I

find this contradictory to the nationalist vision: Should Forti not have extended support for his fellow Italians?

These early ideas that were put in circulation were eventually expanded upon by Giuseppe Mazzini, a Genoese visionary, who was responsible for harnessing early nationalist power and spearheading the Italian revolutionary movement, best known as Risorgimento ('Rising Again'), in 1831. Mazzini's hope, in earnest, was to liberate the separate Italian states from foreign rule, and subsequently create a free and independent republic (Edgar Crawshaw Holt). Thus, Mazzini formed a patriotic group that consisted of young men: Giovine Italia, or Young Italy (Edgar Crawshaw Holt). As Lucy Riall explains in *Garibaldi: Invention of a Hero*, Giovine Italia framed Italy's unification as a kind of 'secular religion' in which Italian youth were called upon to dedicate themselves to the cause of Italy's rebirth.

In response to this call, members of Young Italy swore oaths in which they pledged allegiance to God, Italy, and the legacy of fallen martyrs: "In the name of God and Italy, [i]n the name of all the martyrs of the holy Italian cause, fallen under the blows of foreign and domestic tyranny... I swear to dedicate myself to the cause of Italy united, independent, free, republican" (p. 21). This religious and symbolic language was designed to inspire emotional devotion and a sense of destiny, but it also reveals the limitations of Mazzini's approach. His concept of Italy's 'resurgence' relied on abstract ideals of unity, fraternity, and common heritage.

However, these ideals often excluded the specific social and political realities of Sicily and Southern Italy. As Riall points out, Mazzini's idea of Italian nationalism was rooted in the cultural values of the Northern elite. While Mazzini spoke of a unified Italian 'family', his language did not acknowledge the material conditions of poverty and marginalization faced by Sicilians. I find this to be at odds with his overbearing calls for unity, and as much can be deduced from his own writing.

In his piece “On Nationality”, Mazzini insists that the fight for national independence is not driven by material or economic interests but by a moral and spiritual calling. He frames national unity as a moral imperative, once again rooted in shared language, culture, and tradition (Mazzini).

Mazzini’s argument highlights the contradiction between the ideal of moral unity and the reality of exclusion experienced by Sicily after unification. If nationalism is meant to unite those who “speak the same language” and “bear about them the impress of consanguinity,” then Sicilians should have been seen as equal members of the Italian nation (Mazzini). Mazzini’s vision for Italy was not unlike that of another Italian revolutionary: Giuseppe Garibaldi. The unification was ultimately driven by these two key figures, though they differed fundamentally in their methods and ultimate goals. While Mazzini imagined a morally unified Italian republic rooted in shared values and democratic ideals, Garibaldi embodied a more pragmatic, military-driven approach that prioritized immediate results over ideological purity. Hence, when 1860 approached, Garibaldi’s vision was actualized in his own way. Their relationship is emblematic of the broader contradictions within the Risorgimento, as the lofty ideals of national unity collided with the realities of power and control. Nowhere was this contradiction more evident than in Sicily, where Garibaldi’s ‘liberation’ of the island starkly contrasted with Mazzini’s republican vision.

Garibaldi’s Expedition of the Thousand was a bold, dramatic military campaign in which Garibaldi, along with 1,000 volunteer soldiers (many of them Northern Italians), landed in Sicily with the goal of toppling the Bourbon monarchy (Riall, p. 208). Unlike Mazzini, whose plans required local uprisings and popular consensus, Garibaldi’s strategy relied on decisive military action and charismatic leadership. As Riall argues, Garibaldi’s image was not only shaped by his military exploits but also by the extensive use of print media, public spectacle, and symbolic heroism (Riall, p. 229). Again, tactics that Anderson would deem necessary to cultivate nationalistic sentiment. While the Italian press portrayed him as a liberator and hero of the people, crafting a mythological

image of Garibaldi as a heroic figure who descended on Sicily to free its people from tyranny, the Sicilian experience of 'liberation' did not align with this myth.

For Sicilians, Garibaldi's entrance into Sicily was experienced quite differently. Riall argues that while Garibaldi's campaign was presented as a "heroic conquest", Sicilians were subjugated to a colonial-style occupation. Sicilians, especially peasants, were subjected to harsh new taxes, forced conscription into the Italian military, and the repression of local uprisings. Many Sicilian rebels were branded as "brigands" by Northern officials (Riall, p. 315), a rhetorical move that parallels the process of othering described by Said. Largely, this was due to Garibaldi's decision to hand control over to Victor Emmanuel II, king of Piedmont-Sardinia, once he captured Palermo and Naples. This decision effectively marked the beginning of the Piedmontese occupation of Sicily (Riall, p. 315). The cult of Garibaldi, specifically, exemplifies the power of nationalism to construct symbolic unity through myth. It is a vivid illustration of Anderson's concepts of imagination, and as Riall's analysis demonstrates, the stories told about unity often obscure the deeper fractures that lie beneath the surface.

It is clear, in the case of Italy, that the image of the 'Southern Question' became a focal point for the othering of people from the South. While the rhetoric of Italian nationalism sought to unify the country, it simultaneously reinforced these divisions by portraying the South as the other, never being fully integrated into the national community. This dynamic echoes Anderson's notion that nationalism, while purporting to unify, often serves to highlight and reinforce pre-existing divisions, particularly when those divisions are framed in terms of cultural and racial otherness. The imagined unity of Italy, as it was presented in the late 19th and early 20th centuries, obscured the reality of regional inequality and cultural difference. Sicilians, particular, were constructed as a separate category within the national narrative, contributing to a national identity that was, at best, incomplete and, at worst, exclusionary.

The story of Sicily's place within the Italian nation reveals the inherent contradictions within nationalist ideology. Their status as both Italians and outsiders reveals the limits of Italian nationalism's promise of equality. The case of Sicily illustrates how nationalism is as much about control as it is about liberation. The ideals of unity espoused by figures like Mazzini were never fully realized because they failed to consider and confront the material inequalities, local identities, and resistance movements within the South. Garibaldi's campaign exposed these contradictions, as Sicily's 'liberation' became an act of occupation and subjugation rather than self-determination. Unfortunately, this dynamic is mirrored in contemporary movements that emphasize cultural homogeneity, national pride, and fear of the foreign. Today, as far-right movements and nationalist parties gain traction around the world, Italy's experience underscores that calls for unity are rarely as inclusive as they seem. When nationalism fails to create true equality within the imagined community, it risks producing internal hierarchies and reifying social, economic, and cultural divisions. In Italy's case, nationalism did not resolve the 'Southern Question'; it perpetuated it, leaving behind a legacy of division that still lingers today.

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Communication and Social Media

Lindsay MacDonald
Westchester Community College
Mentor: Dr. Ellen Kreger

Title: "Can You Guess What Every Woman's Nightmare Is?"

Judge's comments: Lindsay's paper analyzes the 2020 film "Promising Young Woman" through the lens of feminist and psychoanalytic theories, and explores the themes of revenge, gender norms, the male gaze, audience discomfort, and the impact of unresolved trauma. Her paper challenges traditional portrayals of women and highlights the complexities of gendered depictions in films within the context of sexual assault. The paper provides a detailed discussion on cultural depiction of sexual assault, especially popular narratives surrounding it, and how the movie challenges the mainstream portrayal of victims and perpetrators in media. Lindsay also did an excellent job during her presentation by elaborating on complex theoretical perspectives in a way that they were understandable by most audiences. I especially loved the fact that she connected theory with practical implications by addressing societal narratives surrounding sexual assault and connecting them to audience response to violence.

Dr. Satarupa Dasgupta

“Can You Guess What Every Woman's Worst Nightmare Is?”: Feminist and Psychoanalytic Theory in *Promising Young Woman*

The 2020 film *Promising Young Woman*, directed by Emerald Fennell, tells the story of Cassie Thomas, a medical school dropout who works at a coffee shop. Cassie spends most of her nights in bars and clubs, pretending to be intoxicated to lure in predatory men. As the movie goes on, it is revealed that Cassie left school after the public rape of her best friend, Nina, who dropped out and subsequently committed suicide. Nina's rapist, Al Monroe, is deemed a "promising" young man and cleared of wrongdoing. Cassie soon becomes friendly with an old acquaintance from medical school, Ryan, and begins dating him. While on a date, Ryan mentions that Al is about to be married, and Cassie is angry that he is able to move on with his life while Nina is dead. She begins to orchestrate her revenge against the people who contributed to Al's exoneration and, ultimately, Al himself.

Promising Young Woman is a 2020 film directed by Emerald Fennell that contributed an essential point of view to the ongoing conversation around sexual assault against women. *Promising Young Woman* uses feminist and psychoanalytic theories to reject traditional gender norms, highlight the audience's discomfort, and demonstrate how unresolved trauma can lead to the unraveling of the psyche.

When considering *Promising Young Woman*, one must consider feminist and psychoanalytic theories. The film specifically attaches itself to Laura Mulvey's theory of the male gaze and audience identification and Sigmund Freud's theory of the id, ego, superego, and repression. Mulvey's theories, stemming from psychoanalysis theory, creating feminist theory, offer an explanation of Cassie's power as she acts as a vigilante, catching men in acts of assault and perversion. Using the male gaze to her advantage, Cassie rejects the original definition of the theory. However, this behavior does not come without inducing discomfort in the audience, as well as an overall lack of relatability. Freud's theories, on the other hand, account for Cassie's revenge plot, her psyche, and her eventual fate. Freud's id, ego, and superego theory presents itself throughout the film, as the

viewer directly looks into Cassie's vantage point and retaliatory motivations. Both theoretical lenses provide ample explanations for Cassie's actions and other characters throughout the film.

Promising Young Woman flips the typical female victimhood narrative, rejecting traditional gender norms that audiences throughout culture have been conditioned to accept.

Throughout the film, Cassie is driven by her desire for revenge against those involved in Nina's rape, as well as the aftermath. However, the film avoids typical methods of female revenge, such as gossiping or name-calling, instead opting for a viciously intense vigilante persona. This causes the audience to see Cassie as the dominant character, whereas typically, women are presented as weak or romance-focused types in film. In her book *Woman and Film*, E Ann Kaplan writes,

“But the important question remains: when women are in the dominant position, are they in the masculine position? Can we envisage a female dominant position that would differ qualitatively from the male form of dominance? Or is there merely the possibility of both sex genders occupying the positions we now know as “masculine” and “feminine?”” (Kaplan).

This excerpt brings up a crucial question. Does the audience see Cassie differently, perhaps more masculinely, due to her behaviors? One must consider how this may challenge traditional gender roles as well, as often, we do not see women in dominant, more masculine roles. Although Cassie is the dominant character, the audience is reminded throughout the film that she is a woman and is, in fact, weak. In her eventual demise, Al overpowers her, and while he could have stopped, he ends up killing her. This reinforces the idea that although Cassie presents herself as powerful, she is a woman and must conform to the stereotypes laid out for her.

This is, of course, not to say that *some* of the film does not conform to gender norms; however, the conformity is much more focused on the male characters. The men in this film are portrayed in an uncomfortably real sense, highlighting toxic masculinity and the true personalities of many of them behind the “nice guy” persona they present. It is also worth noting that the way the

film presents male conformity to norms is perhaps what one would consider unusual. Instead of glorifying the male characters, it connects back to *female* stereotypes of men. However, these stereotypes often come from women's lived experiences with men. In the scene where Cassie confronts Al for what he did to Nina, Cassie says to him, "I want you to tell me what you did." (Fennell, *Promising Young Woman*), yet Al refuses to take accountability, reinforcing yet another male stereotype we often see in film. Al's self-victimization in this scene emphasizes the lack of compassion for the opposite sex, which is enhanced when he cries out, "It's every guy's worst nightmare getting accused like that!" (Fennell, *Promising Young Woman*), to which Cassie responds "Can you guess what every woman's worst nightmare is?" (Fennell, *Promising Young Woman*). This quote points out the double standard that men and women face when it comes to sexual assault. The action of male assailants refusing to admit to their wrongdoing, instead making themselves appear as a victim, is something that is often seen in rape-revenge films.

Additionally, during the scene, Al is the one yelling "stop," though he is the one suffocating Cassie, once again reinforcing his victim mentality. Similarly, we see another common male stereotype in this film, where men protect one another and slight the woman as being "unstable." In the film, when the police approach Ryan about Cassie's whereabouts, he lies, stating he does not know where she went, and feeds into the narrative of Cassie's instability the detective created. This proves that he would rather conform to male stereotypes and expectations than step out and protect a woman. This leaves the audience feeling sickened, as the character they had watched love and care for Cassie suddenly turns on her. In Sarah Projansky's book *Watching Rape: Film and Television in Postfeminist Culture*, she explains, "If the typical rapist is a young clean-cut white man, quite often a sports star, fraternity brother, or soldier, the most *vile* villain in many of these texts is not the rapist but the man who *watches* the rape." (Projansky). This quote furthers the idea that Ryan, a mere bystander, can still be seen as a villain in others eyes. Moreover, it directly ties into Ryan's

experience, as he did in fact watch Nina's rape, and when confronted by Cassie, blew it off. In the end, Ryan reveals himself to be just as chauvinistic and callous as the other men in the film.

One of the theories most apparent in this film is Laura Mulvey's theory of the male gaze. In her 1975 essay *Visual Pleasure and Narrative Cinema*, Mulvey develops the idea that men view women in film with the intent of gaining pleasure from their watching, or voyeurism.

She explores how the male viewer often identifies with the male character, therefore objectifying the woman for their own desires and satisfaction. (Humm). However, in the film, Cassie is *aware* she is playing into the male gaze, and instead of letting herself fall victim to it, she uses it to her advantage to further her goal. Cassie essentially objectifies herself specifically for the male gaze, even following tutorials for "blowjob lips" before going out. In film, we often see women being manipulated for the pleasure of men and the male gaze, but in this film. Cassie flips the male gaze on its head and weaponizes it.

Perhaps the most significant motif throughout the film is the audience's discomfort. In the film's opening scene, the music playing (Boys by Charli XCX) is accompanied by a close-up of men thrusting their pelvises. This visual provokes both dismay and discomfort, setting the tone for the rest of the film as it challenges the masculine persona. Following the opening, the audience is introduced to Jerry, a man in a bar, who sports a guilty look while watching Cassie, in her fake inebriated state, as she attempts to prop herself up. Jerry, appearing to be a "nice guy," offers to take Cassie home, only to attempt to seduce and assault her. The audience's shock only intensifies when Cassie shakes off her intoxicated state to confront Jerry. In a later scene, the audience witnesses men catcall Cassie on the street, subjecting her to the male gaze. However, instead of shrinking or fleeing, she stares back in confidence and assurance, challenging the men's power and, in essence, gutting it. In her essay, *Visual Pleasure and Narrative Cinema*, theorist Laura Mulvey examines the double-edged sword of the male gaze. She states, "According to the principles of the ruling ideology

and the physical structures that back it up, the male figure cannot bear the burden of sexual objectification. Man is reluctant to gaze at his exhibitionist like." (Mulvey). Mulvey clearly explains the juxtaposition of the male gaze but fails to consider characters like Cassie, who aim to challenge the male gaze. Throughout the film, Cassie forces male characters to experience the discomfort of their lack of power, and in turn, creates a sense of uneasiness within the audience.

Due to this discomfort, the audience finds it difficult to identify with one character in the film. Every main character has some tortured flaw that viewers find repellant. These fragmented characters make it difficult for the audience to grasp a single narrative. However, when characters are not living their full experience, the viewers tend to feel more comfortable identifying with them. A prime example of this is when Cassie veers off her revenge plot to pursue a relationship with Ryan, making the film more relatable to the average audience. The film presents scenes of them playfully dancing to music as they stop at the pharmacy, flirting at the coffee shop where she works, and other scenes seen in typical rom-com films. For a brief interlude, she becomes more relatable to the average audience. However, it is also worth considering how viewers who may be victims of sexual assault find a champion within Cassie and can connect with her anger. While Laura Mulvey considered audience identification, specifically with men, she was perhaps unaware of the discomfort a morally gray main character could create. An additional limitation of Mulvey's theory is that the film ends on a less-than-expected note, with the narrator dying. While they may not have identified with Cassie, the audience still experiences confusion as the main character they follow throughout the film is killed before their eyes. Cassie dies in a typical male-overpowering-woman way, which again torments the viewer where to cast their emotion. The audience is left unmoored as the structure of the film collapses.

In regards to Freud's theory of the id, ego, and superego, it is clear from the film's onset that Cassie's id is fueled by her smoldering desire to regain the control that Nina did not have. However, as the film progresses, her revenge becomes more personal. It is as if her id fuels her ego; she is carrying out her primitive desires, but she must use logic to do so. Freud did not directly consider the combination of the two, as he mainly pointed out the stark differences. In *The Freud Encyclopedia: Theory, Therapy, and Culture*, Edward Erwin explains

"...both the ego and the id attempt to satisfy the pleasure principle, but their methods of going about it are radically different: the id insists on immediate gratification without regard to the consequences or steps necessary to achieve it, whereas the ego's task is to factor in those very issues about how to make the original wish or a substitute gratification (or a delay in gratification) possible."(Erwin).

This description of the ego and id in relation to the film makes it clear that perhaps there are complications or exceptions to these states of mind that Freud did not contemplate as he believed they lay in separate areas of our consciousness. Still, the audience is presented with the possibility of the id and ego making joint appearances, as they witness Cassie alternate between her ego and id. Cassie often lets the id crawl out, yet she remains in control for much of the film. However, when Cassie embarks on her revenge plot, the id emerges more and more. Instead of simply letting the id take over to confront perverted men and use them as a means to an end, the id is suddenly much more intense, aggressive, and unrestrained. While Cassie is still acting methodically, it is in a completely different sense than when her actions were less personal. For example, when Cassie meets with Dean Walker, and wishes to obtain an apology or acknowledgment of the wrongness of what occurred, she is met with Dean Walker stating, "None of us want to admit when we make ourselves vulnerable and we make a mistake." (Fennell, *Promising Young Woman*). In this scene, the viewer can see Cassie's id completely take over, tricking Dean Walker into thinking her daughter is

in a frat dorm room by herself, all for admittance of fault. However, the audience also sees the id withdraw itself. In the scene where Cassie visits Jordan, Al's lawyer against Nina, Jordan expresses his guilt, being the first character to genuinely apologize. Due to this, Cassie halts her id's desire to hurt him. This again signifies the limitations of Freud's theory, as Cassie never seems to fully relinquish control, yet her id is incredibly prevalent throughout the film.

The emergence of Cassie's id can be linked to Freud's theory of repression, as well as the general effect of trauma on the mind. Early in the film, the audience sees Cassie still living at home, working at a coffee shop, and ignoring most societal expectations for a woman her age. Despite her parents wanting her to move out, Cassie is far too attached to her old life, her life with Nina, to move on entirely. Rather than therapy or forgiveness as audiences everywhere relate and are conditioned to aspire to, Cassie's answer to her angst is payback: she goes out every night, attempting to catch perverted men. In doing this, she is essentially reopening the wound instead of processing and moving past what occurred. In Marilyn Charles's book, *Psychoanalysis and Literature: The Stories We Live*, she explains, "To work through trauma, we must be willing to be pulled into it, to experience it, to be played on by it." (Charles). While Cassie is revisiting the wound, she seldom allows herself to sit with the grief she feels from losing her best friend, instead remaining rooted in anger that will never heal her pain. Seemingly unable to move beyond her trauma, Cassie's fixation on her lifelong friendship with Nina seeps into every aspect of her life, causing the audience to pause: as Cassie's actions seem beyond her rational control. Is her behavior triggered from a place of just power or out of guilt for not protecting her friend the night she was exposed? Cassie flips between feeling her anger for what happened to Nina completely and ignoring and repressing it until it is brought up again.

The viewer sees this in her relationship with Ryan, for a time Cassie is able to repress her feelings of grief, guilt, and sadness. This thread remains consistent until Ryan's involvement (and

subsequent lie) is discovered on a recording take the night of Nina's rape. This turning point signifies Cassie cannot fully control her emotions and is still consumed by her all-encompassing grief. Edward Erwin writes, "However, since massive repression is difficult to maintain and itself puts a great strain on ego capacity, such individuals are also especially prone to failure of repression and return of the repressed." (Erwin). This further explains why Cassie cannot keep up her repression act and why it is so easily toppled at the slightest mention of Nina.

Promising Young Woman is an especially prevalent film in today's society. As one in six American women have been raped or the victim of an attempted rape. (RAINN), this film is particularly noteworthy due to its connection to current events and lack of censorship regarding rape. Typically, films and television tend to tiptoe around the topic; however, *Promising Young Woman* delves into the lived experience of a victim's friend. Interestingly, the film's title directly reflects a saying heard all too often by women. In her article, *Film Genres after #MeToo: Promising Young Woman as a Rape-Revenge Film and a Rom-Com*, Zsófia O Réti attests,

"The title *Promising Young Woman* is clearly a reversal of a typical rape trial trope: "Why ruin the career of this promising young man over a stupid mistake?"—goes the line that leaves the perpetrator acquitted by peers, family, decision-makers, and media, altogether granting forgiveness at a societal scale." (Réti). Réti further solidifies the film's relevance to current events, cleverly rewording a typically unsettling phrase into a powerful symbol. Furthermore, a rape-revenge film, *Promising Young Woman*, nevertheless presents itself in perhaps primarily unseen methods. In *The Rape-Revenge Film Lives On: Promising Young Woman*, Michele Meek explains, "What is most unique about *Promising Young Woman* is that Cassie's vengeance takes the form of a wake-up call. Whereas most rape-revenge movies offer death, torture, and castration as suitable punishment, Cassie wants empathy." (Meek). This excerpt clearly expresses how *Promising Young Woman* steps away from genre norms and how, despite Cassie's state, deep down, she craves understanding.

Overall, it is clear that *Promising Young Woman* utilizes both feminist and psychoanalytic theories to convey themes of gender norm rejection, audience discomfort, and unresolved trauma's effect on the mind. Above all, the film's release and wide-spread acclaim aided in creating a space to converse about sexual assault against women without shame. However, despite this being received as a powerful film, especially regarding the feminist lens, the ending still reverts back to the traditional viewing of "woman as the weaker sex", as Cassie is killed by Al in one of the final scenes. It serves as a harrowing reminder to women: don't be too strong; men won't tolerate that.

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Social Justice

Hanieh Kachooee

Bergen Community College

Mentor: Professor Lisa Mayer

Title: “The Feminization of Poverty in Iran”

Judge’s comments: The strengths of Hanieh’s paper and presentation were evident. The paper was well written and supported. Her presentation was thorough, informative, and was offered with a beautiful blend of personal and professional skill and presence. Well done!

Dr. Helen O’Brien

Feminization of Poverty in Iran

The word revolution incites a myriad of feelings in the average Iranian, but mostly betrayal in the Iranian woman. Though the Islamic Revolution of 1979 promised to be for the people by the people and bring positive change and equality for its constituents, it seemed to have left half of the population behind. In the past decades, Iran has made immense progress in terms of increasing its female demographic in education and the workforce. However, numbers do not seem to tell the whole story as positive trends diminish when one looks at how effective they are when it's to keep women out of poverty. After forty-five years, the country's long battle to eradicate poverty continues, with the number of Iranians living below the international poverty line and their level of deprivation increasing. Women continue to be the primary victim of poverty as there are gender discriminatory barricades in the nation's law, workforce, and housing system, which anchor down those trying to swim out of poverty.

From 2011 to 2020, Iran lost nearly a decade of economic prosperity, and households in the bottom 40% suffered the most in times of recession and benefited the least during sporadic economic growth. The most vulnerable demographic to this economic turbulence has been identified to be female and divorced, widowed, or never have married (World Bank), indicating an absence of a dominant male figure in their lives. The detrimental impact of a male absence on an Iranian woman's socio-economic well-being stems from the countries' adapted laws after the Islamic Revolution.

In the eyes of the law, women are not entitled to the same rights as men, which limits their mobility, freedom, and their ability to accumulate generational wealth. The women's rights movement in Iran took a pivotal turn in 1967, when women won the right to vote and representation in office, followed by being granted the right to file for divorce, and inherit property (The Iran Primer). However, the Islamic Revolution reversed many of those rights when it came

into power in 1979. Article 1041 of the Civil Code dropped the legal age of marriage for a woman from eighteen to nine initially, and now thirteen (The Iran Primer), legalizing child marriage; a harmful practice that is rooted in poverty. It is the leading cause of girls being taken out of school (Das, 2018), which robs them of the opportunity to learn critical skills for independence and making informed decisions. This culminates in reduced ability to work, limited employment opportunities, and reliance on their husbands for money and guidance, and at risk of being left completely lost and resourceless without. Uneducated mothers are also less likely to support their daughter's school participation (Kamanda et al., 2016), which then limits the daughter in many aspects of life and continues the cycle of poverty among women in low-income communities. By legalizing child marriage as opposed to protecting children, the law assists poor families that use child marriage as an archaic and unethical way to strengthen the family's financial wellbeing, which ultimately perpetuates female generational poverty.

The Republic's law further hinders women's prosperity by not granting them equal legal power in marriage, which can trap women and make them economically vulnerable. According to Article 1105, 1114, and 1117 of the Civil Code, the husband is recognized as the head of the household and can determine where the family shall live and prevent his wife from having an occupation that is "incompatible with family interest" or jeopardizes his reputation. The nature of jobs that would be deemed incompatible have not been formally defined. A husband's control is further magnified under Article 18 of Iran's passport law, which states that married women must have permission from their husbands to be eligible for a passport; this applies to both married women and children. An unmarried woman is not exempted from this law, as she will have to acquire permission from another male relative, predominantly the father (U.S. Department of Justice). This is the epitome of immobilization as women are bound to their husbands or a male figure, both literally and figuratively.

Laws of this nature are especially a nightmare for skilled and educated Iranian women who have climbed the social ladder and found life changing opportunities abroad. A prime example is two-time paralympic gold medalist, Zahra Nemati. In May 2017, Nemati was banned by her husband from exiting the country and competing after she filed for divorce (Iran Primer). Niloufar Ardalan, a football player for the national team, was also banned by her husband from competing in the Asian Football Confederation in Malaysia. Ardalan later disclosed publicly that the rationale behind her husband's action was so she wouldn't miss their son's first day of school (Esfandiari, 2015). Both athletes were able to participate in their respective competitions due to government intervention. It is evident that the Islamic Republic is only concerned with women's professional success when it is tied to national image. There have been countless instances reported of husbands using these legal rights to blackmail, trap and make women give up their financial rights, yet they go completely ignored (Human Rights Watch, 2023).

Women who choose to leave abusive and restrictive marriages must jump over many legal hurdles. The adapted law after the 1979 Revolution stripped women of their right to file for divorce. This law was amended in 2002, for the judge to take into consideration a woman's plea for divorce if her husband fits any of the select few predetermined exceptions: he has been absent for at least six consecutive months in one year, he has a mental illness or incurable disease that disrupts the marriage, imprisoned for five or more years, is an addict and refuses to quit, or is physically abusive. Whether she'll be able to file for divorce even after proving her husband meets one of the criterias is still entirely in the judge's hands (Civil Code). The law's championing of male authority harms women in poverty the most by magnifying their financial vulnerability, preventing them from becoming independent, and presenting barriers for career advancement based on their marital status.

Even outside the scope of marriage, women's financial wellbeing is still legally tied down. It is extremely difficult for a woman to accumulate generational wealth, which makes her more

susceptible to financial distress when compared to her male counterpart. If a woman's husband has passed and they have children, she is only entitled to one-eighth of her late husband's estate, whereas a husband is entitled to a quarter of his wife's estate (Civil Code). The same gender discrepancy continues for unmarried women as Article 907 of the Civil Code states that daughters of a deceased parent are entitled to half of what their brothers receive. Property ownership is a vital way to stay financially secure during inflation and these unequal gender inheritance laws restrain women from building generation wealth in such a volatile economy. This proves to be problematic to a fault as the law stimulates financial dependency on dominant male figures among women but leaves them completely helpless when their sole provider has passed. The impact of this systematic economic disadvantage is more severe on women who are already struggling with poverty as it leaves close to nothing for them to fall back on. Poverty can only exist in the absence of a just system. When Iranian women are not deemed complete citizens in the eyes of the law, the same law that is meant to protect them, they are depleted from rights, access, and resources that are critical for keeping them out of poverty.

With these legal barricades considered, Iranian women have still made immense progress in one of the most effective weapons against poverty: education. From 1979 to 2018, the higher education rate for women skyrocketed from a mere 3% to 59%. In the late 1900s, Iranian women became the majority in universities by getting higher entrance exam scores and also being admitted to more competitive public universities. As a result, they outnumbered male students by a 2:1 ratio (World Bank). Many speculate that universities became a place of refuge for women as they were the most equal they could ever be to their male peers. Higher education served as a pathway to a fulfilling job and therefore independence. This academic advancement was quickly met with an affirmative quota from the Consulate to cap the number of female students enrolled and have a higher number of male students by a 60:40 ratio. In 2012, 30% of public universities limited the

number of admitted women to their bachelor's programs, especially in lucrative fields such as engineering. Eventually, more universities followed suit and implemented the restriction in varying degrees (Baiardi, 2021).

The incentive for this initiative, according to the presidents of said universities, was to push women to more traditionally feminine fields and limit competition for male students. They argued that women were less likely to work in those fields, so it would be rational to utilize the seats for men (Baiardi, 2021), yet they did not look to answer why there are less women in such competitive fields. Despite the sheer misogyny, over 70% of Iranian STEM graduates are women and they make up over one-third of medical school graduates (World Bank). The limited number of seats in bachelor programs make it more competitive for female students and those who do not get in will have to apply to costly private universities, which makes education even more inaccessible to women in low-income areas. This defies the entire point of having a public education system which looks at education as a basic human right and therefore provides it free of charge to all. Unfortunately, it comes at a great cost for the most vulnerable student demographic, and this is without accounting for the price of relocating to attend university, dorms, materials and other costs associated with education.

Iran prides itself as being one of the first countries to close the education gender gap, an achievement that has been formally recognized by the UN in 1998 (Iran Primer). However, the Islamic Republic fails to have systems in place to ensure these positive trends translate into women having equal opportunity in the workforce. Women make up less than 20% of Iran's workforce (Beyraghi, 2019), which is a testimony to how Iranian women truly must grapple in order to access a steady income and the position they studied hard for. In fact, the unemployment rate among women with postsecondary degrees is three times higher than that of men, a staggering 34% compared to 10%. When comparing average wages in men and women with varying education levels, women

with a high-school diploma will earn as much as an illiterate man, and the gap only starts to decrease when level of education goes up (Baiardi, 2021). Educated women being denied work that meets their level of qualification not only leads to wasted potential and an underutilized workforce, but it also puts these women, who should have otherwise been immune, at risk of poverty. It is nothing short of terrifying; studying in a competitive field for years despite much hardship and realizing the patriarchal society you wish to serve does not have much to offer once you finish. The Iranian workforce proves to be another avenue infested with discriminatory laws, supplementing the legal and educational system to pull down women striving towards economic independence.

Women's condition in the workforce only worsened after the global Coronavirus pandemic. Iran was one of the first countries to be affected by COVID-19 in late 2019 and working women were harmed the most. Roughly 70% of jobs lost during the pandemic, from 2019 to 2021, were held by women (World Bank). This equates to a loss of 717,000 jobs among women who only make up less than 20% of the workforce, versus 637,000 jobs lost among men who make up the majority. The disproportionate unemployment and the government's lack of interest in women's welfare have pushed women to the cusp of poverty, and for those who swam out, back into extreme poverty. This economic vulnerability further creates a ripple of distress in political and domestic aspects of women's lives. It has been reported that survivors of domestic violence were forced to return to their abusive partners due to lack of income coupled with inflation. Financially stable women who lost their stable flow of income were pressured to move back in with their families, hindering their dreams of independence. Due to the government's inadequacy of preventing its most vulnerable group from falling back into poverty, paired with the pressures from the soaring U.S. sanctions, the middle-class Iranian woman is close to extinction (International Crisis Group).

For Iranian women without a formal education, the impact of a declining economy is far worse. Low-income women are a target for exploitative employers in search of cheap labor as they

reportedly get paid less and have fewer benefits compared to men in poor communities (WNCRI 2022). With an already low labor force participation rate, 3,000,000 of those women work in underground facilities, have little to know regulations, and make up more than 80% of uninsured workers. Women make up the majority of the service sector in Iran (World Bank) and the nature of these jobs tends to go undefined, other than the fact that they are physically demanding jobs. In case of a work accident, they are at risk of losing their only source of income. A local news agency reports on the conditions of Kurdish women in the south of the nation having to carry heavy loads to barely make ends meet. Another common practice for these women is working in hazardous kilns that come with arbitrary agreements, detrimental shifts and conditions, and compensation that falls below the minimum wage (WNCRI, 2022). The sole reassurance for these ruthless and corrupt employers is the fact that the government does not care enough to intervene. If it did, low-income women would not be in such an economically vulnerable situation to begin with.

Gender-biased occupational segregation and discrimination does not only impact low-income women, but also their families, keeping the poorest poor, with the slimmest chance of escaping. The majority of low-income households are female led, a number that is on the rise with the aid of international sanctions. It reached a national record in 2020: for every four families below the poverty line, three are headed by a woman (Mittelhammer et al., 2023). This puts the burden of saving one's family from poverty's den on the shoulders of the person with the least access to necessary resources. It is also important to note that the current statistics heavily underestimate the actual number of female-headed households as according to the law, men are the head of a household and if they are present, that family would not be considered as women-led, even if she is the primary breadwinner (Mittelhammer et al., 2023). The COVID-19 Pandemic was another driving force in further destabilizing the most ill-protected households. Over 9,000 households lost their primary male breadwinner in just a year and a half. In such a short amount of time, the catastrophe

led to 125,000 women and children being left completely exposed in a cracking economy, with little to no government aid, further contributing to the increase in the demographic.

Affordable housing is another life-altering concern that weighs heavily on the shoulders of female breadwinners and households in Iran. Research has shown that accessible housing is vital to stopping generational poverty and allowing economic mobility for the most vulnerable group of society (Cunningham, 2016). Unfortunately for Iranian women, this fundamental human right according to international law, is also subjective to gender. There are many hindrances, both from patriarchal policies and cultural beliefs, that make it harder for women to secure houses for their families in the lowest percentile. Due to their already restricted income and access to opportunities, low-income women who run households will often spend over half of their income just to remain housed. This decreases the quality of life as less money will be allocated for her and her family's food, education, hygiene, and medical care (Ghaedrahmati, 2019), all important factors for escaping poverty and living a fulfilling life. Another important factor that should be taken into consideration is age. The majority of women-ran households are between 40-75 years old (Ghaedrahmati, 2019), working low paying and demanding jobs and it is only a matter of time before they are unable to work due to physical distress. They will most likely not be able to save their family from poverty and secure stable housing by then on such a limited income.

In addition to monetary restrictions, Iran's laws emphasize a dominant male presence in a woman's life, which creates a degrading cultural notion that lowers the chances of women being able to secure any form of housing. After passing institutionalized bias, women still are faced with cultural bias that frowns upon households without a male presence. It is typically not culturally acceptable for a woman to be living alone, especially in rural areas. Divorced women or those whose husbands have passed are also not an ideal candidate for landlords as they are skeptical of the stability of her income, realtors might also require a co-signature of a male relative (Farahani,

2015).The Inaccessibility of a fundamental right such as housing for Iranian women is primarily due to a lack of financial stability, hurtful connotations reinforced by the law, and prejudice from landlords, all deeply rooted in cultural and systemic gender discrimination.

Iranian women are not only subject to poverty due to a collapsing economy and a repressive regime, but are double oppressed based on the virtue of their gender. The multi dimensions of poverty faced by an Iranian woman stems from structural and cultural gender barricades that hinder her welfare in fundamental aspects of life. In addition to increasing female participation in society and feminizing the education sector, the Islamic Republic has also feminized poverty through decades of practicing discriminatory laws and preaching marginalizing values in Iran's education, work, and housing sector. The government needs to acknowledge that its most vulnerable link and primary caretakers in low-income households are women. If poverty is to ever be eradicated on a national scale, they need to equip women with the equality and resources they deserve to combat poverty.

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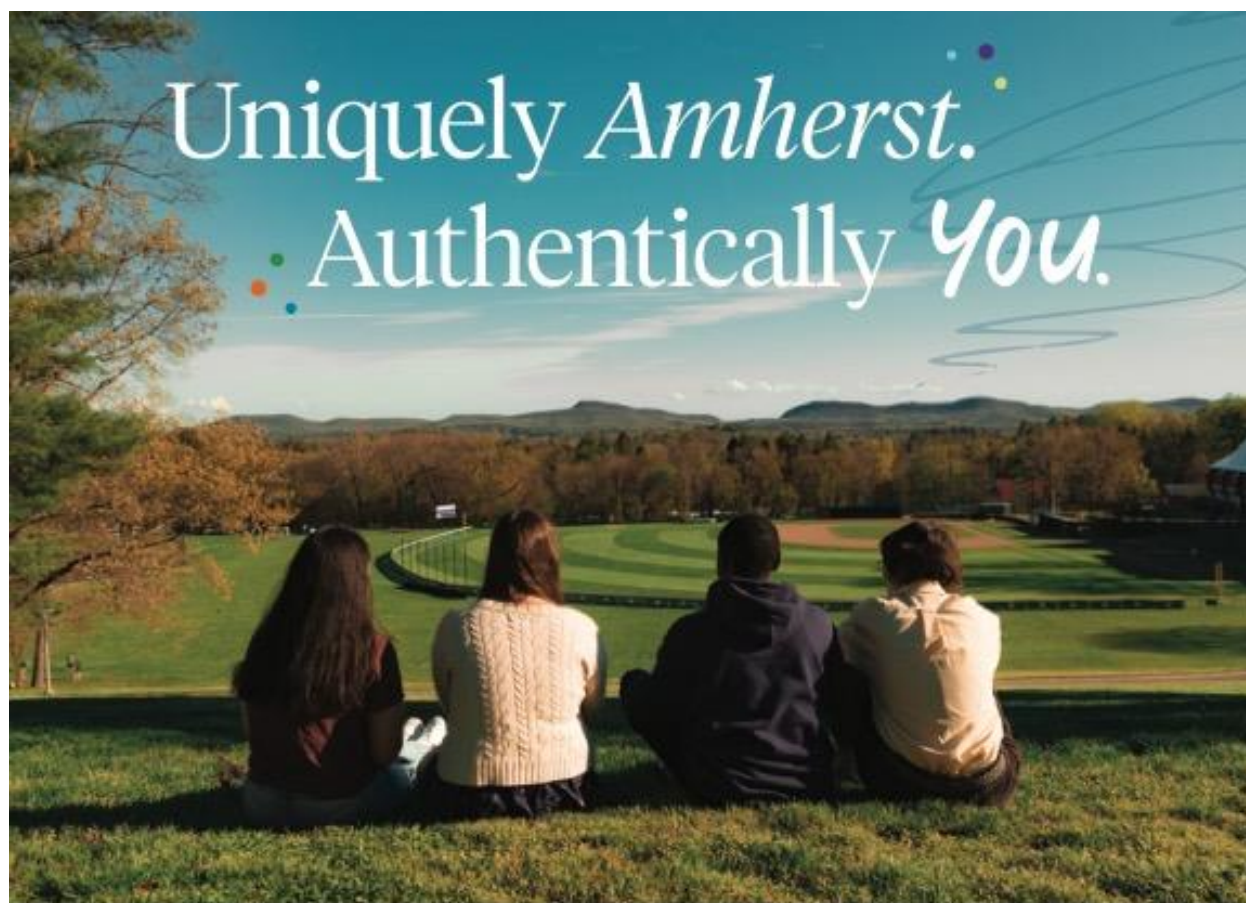
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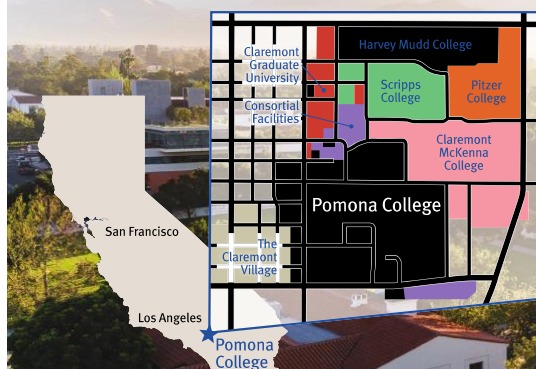


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