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IDENTIFYING DISINFORMATION IN SCHOLARLY PUBLISHING

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MENTOR: JAQUELYN W. WALSH

Abstract

This paper examines the pro-Confederacy movement's attempt to distort history through textbook revision and the anti-vaccine movement's attempt at legitimacy through Dr. Andrew Wakefield, to argue in favor of strengthened media literacy as a brace against the effects of disinformation and propaganda. Previous definitions of misinformation and disinformation overlap and are as yet unclear and therefore should be further studied. Lost Cause mythologists worked diligently to propagate school textbooks that portrayed skewed versions of history that cast Southern Confederates' cause as noble and honorable while obscuring the real reason for the Civil War. Similarly, Dr. Andrew Wakefield falsified data to publish an anti-vaccine study that took years to discredit and to be retracted. While undergraduate students can rely on the CRAAP and BEAM methods of identifying problematic texts, they should be prepared to also engage in lateral reading to ensure that there are no conflicts of interest. Lateral reading is used in this essay to analyze a conspiracy theorist’s links to Russian governmental propaganda outlets.

The South is still waging a culture war about the cause of the Civil War. Bias is a powerful motivator and can have far-reaching consequences. As seen in social movements that take the form of scholarly attempts to influence public opinion, even if the attempt fails, the same lie repeated over and over will cause people doubts about and difficulty in identifying the facts. This is because “the more times we hear something repeated, the more likely it is that we will remember it, even if it is not true” (Burkhardt 29). This paper will discuss the pro-Confederacy movement's attempt to distort history through textbook revision, to argue in favor of strengthened information literacy as a brace against the effects of disinformation and propaganda.

Misleading stories and journal articles can wreak havoc on the attempt to identify accurate sources of information. Misinformation, disinformation, and propaganda are all difficult to define and often overlap in the realm of academic dishonesty, in the forms of research misconduct and conflicts of interest. Because of the difficulty in gathering “reliable self-report data,” the frequency at which academic scholars perpetrate research misconduct is not yet known (Pratt et al. 511). These researchers also clearly define research misconduct as “nefarious acts
committed by those who are in the process of proposing, conducting, reviewing or reporting research. Such acts include data fabrication, plagiarism, and data falsification... authorship fraud, publishing fraud, grant fraud, and problems with institutional oversight” (Pratt et al. 510–512). Academics have developed their own investigations, such as a clear, formal peer-review process within academic journals (Bohannon 60) and critical articles investigating and exposing fraudulent journals (Pisanski 481), to address the problems that Pratt et al. argue “threaten public health and public safety and undermine public confidence” (511). Although undergraduate students cannot depend solely on their own independent investigations, they can ensure greater information literacy, “the ability to interpret text and content, detect ideologies, and understand how information is produced, dispersed, and consumed” (Bousalis et al. 43–44), by scrutinizing research sources with methodical fact-checking instruments that detect bias, such as the CRAAP test (Blakeslee), the BEAM method (Lenker), and lateral reading (Fielding). This essay will utilize portions of the CRAAP test and will perform lateral reading to evaluate a random textbook selection.

Current definitions of misinformation and disinformation are woefully “imprecise” (Karlova and Lee 1). Misinformation can be defined as “that which contradicts the best expert evidence available at the time” (Vraga and Bode 136). Language and information technology researcher Victoria L. Rubin differentiates misinformation from disinformation by calculating intent. Misinformation is “unintentional and includes errors or inaccuracies, while disinformation is deliberately deceptive, false, or misleading” (1017, quoting Jack Fox). To be deliberately deceptive is to “knowingly and intentionally transmit [a message in order] to foster a false belief or conclusion by the perceiver” (Buller and Burgoon qtd. in Rubin 1017). Karlova and Lee argue that misinformation and disinformation often intersect in some contexts because information is subjective:

While disinformation may be true, accurate, and current, and thereby informative, it needs be only misleading, relative to some situation. Since misinformation must be false... and disinformation may not be false, misinformation and disinformation are intersecting subcategories of information. (4)

Defining a term “on only the intent seems somewhat limiting” because the intent of the original speaker or writer can change with “context... and time” (Karlova and Lee 5, 7). Disinformation and misinformation are “highly complex concepts” that may merit further scholarly research in order to be defined (8). Disinformation is multifaceted. According to Brisola and Doyle, “disinformation involves information decontextualized, fragmented, manipulated, tendentious and removed from its historicity, that erases, distorts, substracts, labels or confuses reality” (278).
When does disinformation turn into propaganda? Brett Silverstein, professor of psychology at City College of New York, defines propaganda as “communications delivered with conscious intent of manipulation,” insisting that propaganda is disseminated “in a variety of ways, ranging from intentional disinformation promulgated by governments to much more subtle examples” (51). Much research has been done on propaganda and its many types, but Gregory Asmolov, lecturer of digital entrepreneurship and marketing at King’s College, London, articulates the most thoughtful definition of propaganda as “not only a way to change a person’s perception of the environment via symbolic means, but also a way to change the behavior of a target audience in order to change the environment” (7). Sociologist Alfred McClung Lee further defines propaganda, arguing that it is also a chaotic “barrage of words, symbols, ideas, and events with which members of publics are assailed in efforts to change attitudes, prejudices, opinions, loyalties, and modes of living” (128).

Considering the limitations indicated by Karlova and Lee, determining the intent of scholarly literature can be quite complicated; however, one needs only to trace the history of American textbooks to see how bias, disinformation, and propaganda have played a key role in scholastic publishing for decades. During the Civil War, Southern educators worked to promote “Southern education and textbooks… culminating… in the creation of the Educational Association of the Confederate States” (Curtis 437). After the South lost the Civil War, Southern Confederate associations established smaller groups to oversee the rewriting of history through the introduction of Confederate monuments to public spaces and via schoolbooks for public education that “reinforced a Lost Cause narrative of the war for Southern audiences while competing with Northern versions of events” (Bailey, “Textbooks” 512; Bohan et al.). The intent was to propagate a Lost Cause curriculum at an institutional level through education in order to “sustain a mythology of Reconstruction” (Anthony 60) that reaffirmed White supremacy, minimized the horrors of slavery, and advocated for segregation.

The Sons of Confederate Veterans, United Confederate Veterans, and United Daughters of the Confederacy formed a group called the Rutherford History Committee, named in honor of Confederate historian Mildred Lewis Rutherford (Bailey, “Mildred Lewis Rutherford” 532). Through this committee, White Lost Cause mythologists fought to censor “Northern-based historical materials” in Southern classrooms (Bailey, “Textbooks” 512, 516). They also scrutinized incoming history books using “a measuring rod,” which was a list of “demands” indicated by Rutherford, who listed the following requirements, among others:

Reject a book that speaks of the Constitution other than a compact between Sovereign States. Reject a text-book that does not clearly outline the interferences with the rights guaranteed to the South by the Constitution, and which caused secession. Reject a book that says the South fought to hold her
slaves. Reject a book that speaks of the slaveholder of the South as cruel and unjust to his slaves. Reject a text-book that glorifies Abraham Lincoln and vilifies Jefferson Davis. Reject a text-book that omits to tell of the South’s heroes and their deeds. (Rutherford 5)

Books that were accepted into Southern classrooms thus falsely described enslaved people as “content” and “adequately fed, well cared for, and apparently happy” and also argued that the Civil War was waged entirely because of states’ rights, ignoring slavery as a principal motivating factor (Springston 266 qtd. in Bohan et al. 3; Zimmerman 55). There were “romanticized . . . White” versions of these textbooks in the South and “integrated” versions sold in the North (Bohan et al. 3). By the 1960s, the White versions for the South were referred to as “mint julep editions” (Bohan et al. 3; Zimmerman 64).

Jonathan Zimmerman, Director of the History of Education Program at New York University’s Steinhardt School of Education, provides a necessary perspective of Northern people of color fighting back against racist and bigoted textbooks in the post-World War II era in his article “Brown-ing the American Textbook: History, Psychology, and the Origins of Modern Multiculturalism.” In the 1940s and 1950s, Black Americans in the North campaigning for the removal of “racist slurs” in integrated textbooks were met with resistance from White liberals, who viewed “textbooks as irrelevant to the formation of anti-Black views” (Zimmerman 49). After the Second World War, White educators focused more on instilling a national identity in the classroom and “downplay[ed] factual textbooks” in favor of more “hands-on activities in ‘democratic living’—via games, skits, and songs” (Zimmerman 51). Undergraduate researcher Tyler Brunner recalls that, in the middle of the twentieth century, textbooks shifted to a more homogenous vision of America and of traditional values, to the detriment of depictions of slavery:

If material did not fit the way America should be in the eyes of those most bent on tradition, then it was to have no place within the textbook. Slavery might have been viewed differently during the 1950s, but according to the logic being followed by textbooks written during the 1950s, when slavery did occur it was acceptable simply because it was an American way of life, it was merely the tradition then. (7)

Upon further review, racism was not limited to only history textbooks but was also espoused across academic curricula. A 1950s geography book “praised colonialism in Africa”; biology textbooks introduced eugenics; music texts referred to Black people as “‘darkey,’ ‘nigger,’ and so on”2; and reading texts such as Little Black Sambo were used widely in elementary schools despite the derogatory representation of the characters through stylized stereotypes of Black people (Zimmerman 53–54).

When Black activists implored Northern textbook authors to make changes, these activists “based their complaints upon history—that is, upon scholarly
knowledge—rather than upon ‘emotion’ or ‘sensitivity’ as patronizing Whites often claimed” (Zimmerman 55). The New York National Association for the Advancement of Colored Persons, NAACP, published a study comparing schoolbooks’ depictions of enslaved people as happy with “scholarly works by Black historian Carter G. Woodson” to show that textbooks were inaccurate (Zimmerman 55). Further strengthening their argument on scholarly grounds, critics of Chicago textbooks pointed to Black Reconstruction by W. E. B. Du Bois, which dispelled myths that “Blacks had ‘looted’ the South—and that the K. K. K. had ‘saved’ it—after the Civil War” (Zimmerman 55). Following Brown v. Board of Education, those in favor of integration “warned that ‘segregated’ schoolbooks, like segregated schools, would harm minority children” (Zimmerman 60). In the 1960s, Black civic organizations such as the NAACP, Urban League, Congress of Racial Equality, and Black Panthers united around a campaign against racist textbooks in order to “promote Black ‘identity’” (Zimmerman 62). When the 1960s saw high dropout rates for Black students, this was attributed to “prejudiced history books” (Zimmerman 62). Because school courses “ignored or denigrated” people of color, there was less incentive to pay attention to the text or to learn (Zimmerman 62). As James Baldwin testified in a congressional hearing, “Anyone who is Black is taught... that Negroes are not a civilization or culture. You cannot educate a child if you first destroy his morale” (Zimmerman 62–63). Although Northern textbooks very slowly changed with the times, many references to racism had been removed by the 1970s, which posed problems for “depictions [of] Blacks ‘struggling for rights’—but rarely noted ‘what these guys are struggling against’” (Zimmerman 66, quoting Loewen Fitzgerald).

Although unwanted and found oppressive by historically underrepresented groups, the influence of Lost Cause textbooks has reverberated into the present-day South’s prevailing attitude of White supremacy, as the same Confederate associations continue operating to influence public opinion. For example, members of the Sons of Confederate Veterans of Lake Charles, Louisiana, appeared at Calcasieu Parish Police Jury and Lake Charles City Council meetings to argue in favor of keeping a Confederate monument on public taxpayer property in 2015, as they have for decades (Schmidt). Sociologist James W. Loewen argued that even modern Northern textbooks still soften the blow of White supremacy by “mystifying secession because they don’t want to offend Southern school districts and thereby lose sales” (“Why”).

Although school textbooks slowly changed to reflect a more balanced viewpoint, the damage was already done. A 2017 survey of American high school students conducted by the Southern Poverty Law Center found that a mere 8% of senior students could accurately “identify slavery as the central cause of the Civil War” (9). This same survey found that 58% of teachers believe that current “textbooks [are still] inadequate” at conveying the topic of slavery (9). Upon examination of modern Louisiana textbook content standards, the grouping
**Expectations for Social Studies in 2011** was found “shamefully vague when it comes to the history of American slavery” (32). One review of the report of this survey concluded that, through modern textbooks, “slavery is mistaught, mischaracterized, sanitized, and sentimentalized—leaving students poorly educated, and contemporary issues of race and racism misunderstood” (Anderson). James Loewen, reviewing 18 textbooks at a high school level, 12 of them published before 1994 and the rest in circulation since 2000, found that none of them gave a concrete “statement as to why the South seceded” (“Using Confederate Documents” 39). In his critique, Loewen details various school textbooks’ vague interpretations of the reasons for secession:

*Holt American Nation*, for example, says, “Within days of the election, the South Carolina legislature called a convention and unanimously voted to leave the Union. Alabama, Florida, Georgia, Louisiana, Mississippi, and Texas soon passed similar acts of secession.” Similar to what? One book, *The American Pageant* … manages to select three long sentences that do not mention slavery…. Some actually claim secessionists seceded for “states’ rights,” although the documents make clear this is counterfactual. (“Using Confederate Documents” 39)

Even now, slavery is given as a “secondary cause” for secession (Loewen, “Using Confederate Documents” 40), despite an overwhelming body of primary documents that indicate, according to Loewen, that “it all came back to slavery” (“Using Confederate Documents” 37).

Although strong information literacy is a remedy to the ills of misinformation, further complications arise upon acquaintance with the caveats of scholarly endeavors. Academics fight back against these issues, not only through the higher-level control mechanism of peer review (Bohannon 60) but also through their own scholarly investigations to identify predatory publishers (Pisanski 481), discuss inconsistencies within other bodies of work (Ramsay and Robertshaw 6), and analyze the science of article retraction. Cokol et al. conducted a study that found that, of more than nine million articles published from 1950 to 2004, fewer than 1% had retractions issued by the publisher (423). Their results “suggest that high-impact journals are either more prone to publishing flawed manuscripts or scrutinized much more rigorously than low-impact journals” (Cokol et al. 423). David Dunning and Justin Kruger conducted experiments that demonstrated that those who do not know very much about a specific topic often overestimate their capability and thus are “particularly susceptible to manipulation” (Burkhardt 29). In order to stifle such attempts at manipulation, university librarians often equip first-year college students with the instruction needed to demonstrate selectivity through information literacy.

According to Mark Lenker, a teaching and learning librarian at the University of Nevada, Las Vegas, there are at least two basic methods that teach college students
to evaluate a source. The first method is “trust-based,” like the CRAAP test, which formalizes a student’s evaluation of “currency, relevance, authority, accuracy, and purpose” to determine the source’s level of trustworthiness (722). To utilize the CRAAP test, one must first evaluate currency, which assesses a source’s timeliness. When the article was first published or revised is considered because time-sensitive topics, such as current events in politics, may require recently published material. Second, one must assess relevance, which determines how important a source is for one’s needs. Third, the category of authority considers the source of the article and that source’s respective credentials. Fourth, one must determine accuracy, which is reflected by the level of evidence provided in bibliographic metadata, whether the data can be verified in other sources, and the overall reliability of the article. Lastly, one evaluates purpose, asking whether the material is meant to “inform, teach, sell, entertain, or persuade” (“Evaluating Information—Applying the CRAAP Test”). The category of purpose also answers whether there may be biases associated with the article or if the article is misinformation, disinformation, or propaganda. Despite the availability of this tool, it is “unreasonable to expect students to conduct formal analysis for each source they consult” through trust-based methodology (Lenker 723). In practice, this method is not used very often for evaluating sources (Duby 4).

The second method, BEAM categorization, is “use-based” (Lenker 723) and considers the context of the background, exhibit, argument, and method of the source materials utilized in an academic essay (Bizup 72). BEAM assists students with understanding and crafting their arguments, but its use is limited because it fails to encourage one to “consider whether a [particular] source contributes to [one’s] learning” (Lenker 723–724).

Rather than limit oneself to trust-based or use-based methods, Jennifer A. Fielding recommends additional methods. She argues that student researchers should familiarize themselves with the fact-checking method of investigation through what she calls lateral reading (621). This occurs when researchers open more than one web browser tab to look up outside information beyond the sourced article, to discover things like how funds were raised, who was involved with the publishing organization, and the additional affiliations of the writers (Wineburg and McGrew qtd in Fielding 621).

University librarian Joanna M. Burkhardt advises student researchers to detect and/or avoid encounters with misinformation by comparing sources, especially those that do not necessarily agree with their own opinions, and to “approach news with skepticism” (26). One can even apply trust-based, use-based, and lateral reading methodologies to scrutinize journal articles as well as entire publications.

Although the CRAAP test and BEAM categorization are generally more suited for online content, their tenets could also be applied to textbooks. A more modern
example can be found within the pages of the college sociology textbook *The Basics of Social Research*, by Earl Babbie, wherein he refers to the work of researcher Michel Chossudovsky (Babbie 35). Readers must take Chossudovsky’s statements provided by Babbie at face value because they are in a textbook. The reader will therefore continue without the knowledge of the problematic bias and conflict of interest demonstrated by Chossudovsky. While Babbie references Chossudovsky’s analytical theories, he is vague about Chossudovsky’s credentials and authority. Undergraduate readers can thus only speculate that Babbie attempted to introduce a theory on its own merits, though Babbie risks reliability and trustworthiness by including theorists who openly seek to subvert critical thinking by authoring questionable content at known repositories of Russian state-led propaganda.

Consultation of source material related to his writings shows that Chossudovsky’s “argument[s]… resemble a conspiracy theory” (Duhs 171–172). Brief lateral reading (Fielding) research on Chossudovsky reveals that he is a retired sociology professor who also owns and runs the news aggregate website Global Research, or Centre for Research on Globalization. According to an American government report compiled in 2020, Chossudovsky’s site is “deeply enmeshed in Russia’s broader disinformation and propaganda ecosystem,” featuring a “large roster of fringe authors and conspiracy theorists [that] serves as a talent pool” (United States Department of State 25-26) to similar Russian and Chinese disinformation sites.

Through Global Research, Chossudovsky has published at least seven authors who are actually “false online personas created by the Main Directorate… popularly known as the GRU,” Russia’s military intelligence service (United States Department of State 30). Chossudovsky also often appears as an expert or a contributor on RT, which is funded by and “reflects the Russian government’s official position” (Fisher), as well as Sputnik News, another Russian state-owned media company (Groll) that publishes propaganda (Feinberg). Any material by Chossudovsky scrutinized for authority and purpose may therefore fail; in this case, there are relevant concerns about Chossudovsky’s association with controversial publications, and the possible purpose or intent of any of his work could be “part of a larger effort to sow disarray and distrust within Western democracies” (Lewis qtd. in Daigle). RT and Sputnik News are state-run media networks that the U.S. State Department’s report on the Global Research website identified as a “proxy outlet… that proliferates Russia’s disinformation and propaganda narratives” (11). In September 2020, FBI director Christopher Wray told the United States House committee that Russian agents were mainly trying to affect the (November 3, 2020 presidential) election through “malign foreign influence,” such as social media, state media and the use of proxies… to denigrate vice-president Biden and what the Russians see as kind of an anti-Russian establishment. (Greve)
One must also consider purpose when evaluating sources. Among the most recent claims published by Chossudovsky, one article falsely states that the 2019 novel coronavirus outbreak was engineered by the United States as a “bioweapon created to target Chinese people.”

If sources originate from a place of bias or disinformation, what resources can one trust? Clearly, it is not enough to rely on one source, such as a textbook, without the reader’s development in information literacy. Information literacy is critical to discerning whether a source should be trusted. Loewen recommends the use of primary documents (original historical artifacts) to verify what is written in textbooks and, more importantly, to get students thinking about the context in which history was written and the critical way it should be viewed (“Using Confederate Documents”). Barton goes further, stating that primary documents should be supplemented with additional primary and secondary documents to “provide reliable testimony of the past” (qtd in Jarosz and Kutay 207).

Although the CRAAP test and BEAM method can be helpful for initial research, student researchers can go beyond the basics with the use of lateral reading and source comparison to assess credibility and identify potential sources of disinformation. Although it is not always time-efficient to engage in lateral reading for every source, one can review scholarly literature for any challenges or subsequent expansions on the work. Though Southern textbooks sought to redefine public opinion by touting triumph over Reconstruction, information literacy can be applied to such texts by evaluating the sources in relation to the textbooks of the North, along with the credentials of the people on the textbook boards that approved such disinformation to spread within Southern schools. Further historical review of the culture wars waged by Southern revisionists shows that corrections to the record were made possible by Black activists in the late twentieth century. The ability to understand information in textbooks is strengthened by primary and secondary documents to be empowered enough to analyze these documents together, to discern the reality from which they came about, and to identify and therefore resist the attempts of disinformation that could alienate the reader and distort the truth.

Notes

1. All terms used to indicate race or racial grouping have been capitalized. Modern Language Association of America guidelines are unclear on the application of capitalizations or lowercase to “White” or “Black,” while other formats advise against capitalization of “White.” The Associated Press (AP) updated its style guide to capitalize Black, but not White, following the murder of George Floyd. Those against the capitalized form in AP style state that “capitalizing the term White, as is done by White supremacists, risks subtly conveying legitimacy to such beliefs,” while those in favor argue that “capitalizing White would take power away from racists,
since their similar use ‘would no longer be provocative defiance of the norm.’” (See David Bauder’s “AP Says It Will Capitalize Black but Not White.”) The author neither intends nor implies legitimacy of White supremacist beliefs through use of the capitalized form, “White.”

2. Assistant Professor of History Elizabeth Stordeur Pryor articulates the problematic inheritance of the pejorative slur *nigger*, indicating that a few terms must be referenced when using the word. On the use of the most offensive term, she says the following:

Although I will never personally speak the word in a public forum, opting instead for the colloquial (and admittedly fraught) phrase, “the n-word,” I choose here not to replace the actual word with the popular surrogate. . . . In the U.S. context, nigger was profoundly tied to ideas about slavery, race, labor, gender, and class. Speaking about the word without considering these factors obscures its real meanings. (207)
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AN EVALUATION OF WOMEN’S SOCIAL STATUS IN COLONIAL HONG KONG WITH A FEMINIST LENS—CASE STUDIES

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MENTOR: JACQUELINE WHEELOCK

Abstract

Even though Hong Kong remained under British control from 1842 to 1997, denizens were not modernized in a way comparable to that of the British. To the contrary, while governing Hong Kong, British colonizers allowed continued reference to ancient Chinese customs in the area. Such policy diminished women’s chances of receiving fair treatment in matters such as property management and divorce. Unlike in Hong Kong, women were legislated to be parallel to men in matrimonial and property inheritance petitions in China, Britain, and colonial Singapore. This study is based on two exemplary cases judged by authorities in colonial Hong Kong. Furthermore, the study explores how differently the judicial offices in Britain, the People’s Republic of China, and Singapore viewed these issues. Women in these regions were characterized as legal heirs of familial properties, though the attitudes toward women’s equal placement with their husbands when facing divorce were addressed in varied manners. Such research requires a correction in historical misconceptions and elevates gender studies on Chinese women to a more comprehensive status in chronological comparisons. Additionally, this research implicates that gender equality cannot be analyzed from only one perspective but in an interconnected manner, for a synthesis can allow us to see weak points in women’s status in colonial Hong Kong more deeply.

Keywords: feminism, Chinese customary law, family law, petitions

Introduction

When an imperial state colonized a certain area centuries ago, that colony was supposed to be controlled in a way that paralleled how the colonizers were governed in their homeland; however, things were different in Hong Kong, a British colony from 1842 to 1997. Here, the British allowed the judicial practice that “all natives of the Island of Hong Kong and all the citizens of China living there were to be governed by the laws of China, with the exception of all kinds of torture.”1 In this context, the phrase “laws of China” refers to Chinese customary law, which the British decided to

use when it came to judicial punishment. Under this manifesto, local authorities in judicial proceedings (apart from those related to “torture”) continually used ancient Chinese customs, in which women were significantly objectified as men’s subjects. This meant that women could not engage in careers outside the home or inherit property from their deceased fathers. The usage of Chinese customary law was justified by Article 13 of the New Territories Ordinance (1910):

Article 13: Court of First Instance or the District Court may enforce Chinese customs

(1) Subject to subsection (2), in any proceedings in the Court of First Instance or the District Court in relation to land in the New Territories, the court shall have power to recognize and enforce any Chinese custom or customary right affecting such land.

(Amended 1 of 1953 Fourth Schedule; 55 of 1994 s. 10; 25 of 1998 s. 2)

(2) In subsection (1), proceedings (法律程序) does not include proceedings in respect of or in relation to the Probate and Administration Ordinance (Cap. 10), the Intestates’ Estates Ordinance (Cap. 73) or the Inheritance (Provision for Family and Dependents) Ordinance (Cap. 481).

(Added 55 of 1994 s. 10. Amended 58 of 1995 s. 27)²

Consequently, women tended to have little income and were usually at a disadvantage in court when petitioning for their rights.

Although the founding of the People’s Republic of China (PRC) in October 1949 marked a new era in Chinese history, Hong Kong was distant from such a proactive milestone, partly because it remained under British control for another 48 years. Even though the extent of this characterization has weakened significantly in the modern period, it still remains distant from annihilation. To prevent gender inequality from worsening, the feminist movement emerged. This paper focuses on feminism’s effect on Chinese customary law, which was practiced in colonial Hong Kong.

The formation of Chinese customary law was initially promoted by Confucianism, which introduced the concept of li. One major part of this ideology was that women had an obligation to obey their fathers before marriage, their husbands after marriage, and their sons (if they had any) if their husbands died.³ Ancient Chinese women were thus always a level below men, which restricted them from obtaining fair treatment if they attempted to equalize themselves with their

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² Hong Kong, New Territories Regulation Ordinance, 1910, Cap. 97.
³ Etiquettes and Ceremonies, 2014.
male relatives. For instance, when young women in ancient China reached the age of marriage, their freedom to choose their preferred spouse was miniscule. Instead, they had to listen to their fathers, who had supreme authority in the family. Fathers would find their daughters husbands whom they believed would be the most appropriate to “continue the family line,” whereas women’s responsibilities in this process were to agree and to marry those men. Traditions like this one permeated the entirety of Chinese territory and remained in place for centuries; therefore, when the British took control of Hong Kong in the mid-nineteenth century, it proved relatively difficult for them to shape the place into an entirely British region.

What was women’s social status in colonial Hong Kong compared to other places? To answer this question, I analyzed the judgments of two cases, along with certain articles in the Matrimonial Proceedings and Property Ordinance in Britain, the New Marriage Law (1950) in China, and the Women’s Charter in colonial Singapore. This method will reflect how the judgments in these cases varied between regions with different versions of matrimonial laws. These differences show that women were given hardly any rights in marriage and family issues compared to their husbands and the male relatives in their families and when compared to Britain, colonial Singapore, and Mainland China. This could alter public attitudes toward women’s social status in a place that was officially colonized by Britain for around 150 years.

As for the two cases included in this paper, one is about property inheritance and management in a local clan, and the other is about divorce. Specifically, I focus on the female parties and interpret their actions according to feminist theory. From my interpretations, I hope to make inferences about whether the registrars made convincing judgments on these cases.

In this study, I began with a literature review that contextualizes my research. Specifically, by reviewing the contributions of previous scholars on this topic, I will show the significance of my study, which fills a research gap by providing a synthesized view of historical jurisprudence. After the literature review, I will introduce the cases and compare the judgments with potential modifications that might have appeared if the cases had been judged in Britain, China, or colonial Singapore.

**Literature Review**

Though it currently exists as one of the special administrative regions of the PRC, Hong Kong was once ruled as a colony by the British Empire. Rather than forcing Hong Kong’s residents to adopt British laws, however, the colonizers allowed the continuation

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of Chinese customs, which accentuated women’s obligation to obey males. Numerous studies have been conducted to analyze how women reacted to their circumstances and the causes of such phenomena.

My topic focuses on understanding the historical origins and feminist implications of women’s social status in Hong Kong. In this literature review, I examine the physiological, cultural, and judicial clashes that took place between the authors of the literature examined. Regarding physiological clashes, some scholars believe that women should understand the corporeal differences they have as another sex, while others believe that women should focus on laws, an aspect that can concretely change their social status. From a cultural perspective, although some researchers say that ancient Chinese customs shaped women’s subordinate status in society, others argue that these traditions enlightened women’s pursuit of gender equality. Judicially, some authors contend that it was better for the colonizers to have used British laws to rule Hong Kong because these statutes gave women additional rights in the eighteenth and nineteenth centuries, while others disagree by emphasizing the irreplaceable position of Chinese customs.

The Physiological Clash

Researchers have disagreed on prioritizations in pursuing gender equality. In this debate, some researchers have argued that it is important for women to understand their conditions. Preliminarily, their arguments were initiated from Marxist interpretations of women. From a Marxist viewpoint, women are physiologically different from men. Women have body parts that men do not have, such as the uterus and vagina, used in pregnancy and childbirth. Pressuring women to fulfill these procreative obligations not only undermines the necessity for them to participate in education or socially productive tasks as men do but also pushes them into a subordinate class. According to Karl Marx, if women were allowed to participate in economic production with their husbands, they would be considered “class [enemies] by nature.” In comparison, if women follow what is congenitally designed for them, such as housework, they are the elixirs of family distortion. Under such conditions, Fanny M. Cheung believed that women’s centers should be built in places like colonial Hong Kong, where male supremacy was highly treasured. With the establishment of a women’s center, women could be motivated to leave their homes and enter society. Additionally, at the center, women would be “[encouraged] to take the initiative of finding more information about themselves.” Cheung provides convincing data illustrating the consequences of restraining females’ involvement in education in Hong Kong, especially

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in their employment rates: “The percentage who attained postsecondary school or university education was only 2.1% for females and 4.5% for males.” Consequently, Cheung argues, women “usually become involved in community or voluntary work for affiliative rather than individualistic motives.” Thus, Cheung accentuates the importance of a women’s center to provide irreplaceable benefits in helping women in Hong Kong learn more about their social status. With this achieved, Hong Kong could move further toward becoming a concretely liberal place like many Western states. Because Cheung wrote this in Hong Kong just before the handover, it provides a useful window on the situation of women in Hong Kong at the end of British rule.

Though approving of Cheung’s belief in the importance of understanding how women are characterized by society, especially from a physiological view, Catherine MacKinnon prioritizes jurisprudential change, which can equalize women and men in court. In her opinion, consciousness-raising can be endless because women cannot fully access implicit messages about their status. In this case, it is important for women to critically view the laws to “change the state’s relation to women and… women’s relation to men,” where laws can be enhanced to be more impartial and to treat people of both genders fairly. Though MacKinnon goes further than Cheung, her plans for the future are relatively ambiguous. People like Rachel Stern therefore specify how laws should be changed to balance the rights of men and women. In her paper “Unpacking Adaptation,” Stern criticizes Cheung’s opinions by claiming that “consciousness is a slippery, unquantifiable concept.” She also argues that it is important for women in Hong Kong, especially those involved in the female inheritance movement, to adapt liberal ideologies that originated from other parts of the world to “fit the worldview of the participants and attract followers.” After accumulating followers, women can develop a global interpretative world view of gender equality, in which they can sense that their society is relatively outdated compared to developed areas in the West. The most important group in this process will be translators who “[close] the gaps between indigenous women’s private perception of the problem and the public framing of it.” Here, private perception refers to women’s consciousness of their status and public framing refers to the laws supporting their conditions. According to Stern, when the gaps are closed, women can get closer to their allies, which can ultimately promote a jurisprudential change.

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9 Ibid., 102.
10 Ibid., 103.
11 MacKinnon.
12 Ibid.
14 Ibid.
15 Ibid., 430.
16 Ibid., 434.
in women’s social status. Such a structure of argumentation is built upon those developed by Marx, Cheung, and MacKinnon. Marx’s discriminatory ideas provoke a clash between men and women, while Cheung, MacKinnon, and Stern try to rationalize gender equality at different levels. Specifically, Cheung shows the importance of women’s consciousness of their positions in society, which is preliminary. MacKinnon builds her ideas upon Cheung’s, bringing out the necessity for jurisprudential change, and Stern specifies MacKinnon’s statements by delineating the crucial actors involved. The connection between ancient Chinese culture and gender equality cannot be denied, however.

The Cultural Clash

Researchers also hold different opinions about the contributions of Chinese culture in shaping women’s social status. Customarily, Chinese women were obliged to follow the commands of their fathers before marriage, their husbands after marriage, and their sons if their husbands died before them. Under such a tradition that has affected both Mainland China and Hong Kong, males, especially fathers, in Chinese families must be respected, especially in the naming of their descendants. According to Jérôme Bourgon, Chinese traditions implicitly shaped women’s subordinate status in both their families and society by accentuating the patriarchal powers of fathers. In fact, if a character in a son’s name clashed with his father’s, he could be “deprived of the [Jinshi/Doctorate] degree by examiners,” even though he earned good scores on the exams. Women were not allowed to hold degrees like men were in ancient China, and their future lives were mostly outlined by their fathers. Specifically, according to Athena Liu, Chinese women had to marry the young men their fathers selected for the alliances between their families and their soon-to-be husbands’ families and to follow the filial acts introduced by Confucian thinkers, in which the women were responsible for giving birth to infants. Conversely, if Chinese women either refused to marry the fiancés chosen by their fathers or failed to bear descendants, they were regarded as troublemakers because “[their] ancestors would become unworshipped ghosts.”

Though Yuhui Li approves of Bourgon’s and Liu’s arguments, she argues that ancient Chinese culture not only shaped but also promoted a change in women’s social status, discussing the inefficacy of socialist feminism in equalizing men and women in society. Instead of referencing ancient Chinese ideologies, Li implements data from

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17 Ibid.
20 Ibid.
the twentieth century. Specifically, although social resources such as employment and educational opportunities were redistributed under socialist feminism, Chinese women not only were still deficiently employed (49%) in industrial production in the 1980s\(^\text{21}\) but also retired much earlier than men: “In 1987, the percentages of employed men and women were 97.7% and 73.6% respectively for the age group of 45–49 years old.”\(^\text{22}\) Additionally, Li found that “in 1982 and 1988 respectively, women accounted for only 16.5 percent of students at Tsinghua University and 20 percent at Peking University.”\(^\text{23}\) In contrast, men from different social classes gained more access to better education after the “socialist revolution” in China. Li therefore concludes that such a revolution was unsuccessful because it only redistributed social assets between men of different classes instead of considering women.\(^\text{24}\) In fact, because male proletarians were given the chance to voice their opinions about how to promote further development in the PRC, Li argues, “Confucian patriarchy was replaced first by new democratic patriarchy, and then by patriarchal socialism.”\(^\text{25}\) Here, Confucian patriarchy refers to the customary patriarchy established by ancient Chinese ideologies, whereas democratic patriarchy refers to a modernized version of patriarchy after the emancipation of the male proletariat. For women, says Li, if “patriarchy” is not fully eliminated, gender inequality will continue to be a serious social problem in China, especially in rural areas. Overall, Li claims that socialist feminism is not an effective tool for pursuing gender equality in China.\(^\text{26}\) Such an assertion surpasses the attitudes conveyed by Bourgon and Liu. For them, the main contribution of ancient Chinese customs in this context is that they shaped women’s subordinate status in society. In comparison, Li highlights the future of feminists by introducing a trap that they may fall into, which is to naively support “democratic patriarchy.” Such a contribution increases the possibility for women to obtain an equalized social status with men because it reminds women of the importance of making themselves heard socioeconomically, a crucial aspect that is partially associated with MacKinnon’s ideas discussed earlier. To rationalize their ideas, Hong Kong women must have turned to a legal viewpoint at the same time.

The Legal/Judicial Clash

Finally, there is a debate about whether it was better for the British to use their own laws to control the people of Hong Kong. Some researchers believe the adoption of British laws might not be as damaging to Hong Kong as was previously predicted, as it could have emancipated women earlier. Greatly influenced by the

\(^{21}\) Li.
\(^{22}\) Ibid., 37.
\(^{23}\) Ibid.
\(^{24}\) Ibid.
\(^{25}\) Ibid., 34.
\(^{26}\) Ibid.
Enlightenment, the British started to question the divinity of patriarchy in the eighteenth century instead of viewing the matter as “the stable marker of a cosmic and largely inscrutable divine order.” In the nineteenth century, as Great Britain expanded geographically, white supremacy was further accentuated. Such a social trend brought equalization between men and women, especially among the white race, to center stage. However, hardly any significant changes were made. Fortunately, according to Wm. Roger Louis, as the British Empire gradually disbanded after World War II, the nation experienced a “[transformation] in imperial discourse,” in which “the reconceptualization of Empire to Commonwealth, a ‘move from (masculine) power to (feminine) service’” was epitomized. This signifies British women’s access to job positions in the political field. Another avenue for women to participate in politics appeared when the British government gave women the right to vote before the proclamation of the 1923 Act. In contrast, Chinese customary law, which originated from locals’ adoption of ancient Chinese customs that treasured male supremacy, was used in colonial Hong Kong. Overall, Philippa Levine used historical facts from the eighteenth and nineteenth centuries to show Britain’s leading position in achieving gender equality, whereas Ann Sumner Holmes set her descriptions upon Louis’s by explaining amendments of British laws in the twentieth century, a time that connects better to colonial Hong Kong. Even though it seems that, from a judicial perspective, it would have been better for colonial Hong Kong to accept full British control because of the latter’s equalization of the two sexes, however, some researchers still argue that it was wise for the British to allow the continuation of Chinese customary law.

According to some researchers, Hong Kong being ruled by British laws was not a good idea. One of the major inceptions of this view is the high position of archaic values, such as politeness (li), filial piety (xiao), and trust (xin), in Chinese society. The denizens of Mainland China and Hong Kong incorporated these values into their judgments of civil matters, in which local customs served as the law, except when they were “proscribed by decree, ordinance, or statute.” Thus, using statutes such as the UK Prescription Act in this scenario would be “inapplicable to the local circumstances and inhabitants” because “the British system of imposing a magistrate over the Chinese customary rule seemed to create a contradiction in this system.” Because of the range of applicability of Chinese customs, however, Gary

28 Ibid.
29 Ibid., 80.
31 Wen.
32 Lilienthal, Wang, and Ahmad.
33 Ibid.
Lilienthal, Wang Shi Qi, and Nehaluddin Ahmad argue that colonizers could use British laws in affairs beyond civil matters such as torture. This opinion differs from that of Wen Yen Tsao, who believes that once a manmade practice like Chinese customary law is rigidly established, it cannot be eroded by anything else. Overall, although Lilienthal et al. and Wen agree on the erroneousness of British laws ruling Hong Kong, they contradict one another about the extent. According to Lilienthal and his associates, British laws could be used in issues beyond civil matters, whereas Wen believes it was wise to fully allow the continuation of Chinese customs in Hong Kong.

Even though the researchers devoted their energy to analyzing women’s lives in Hong Kong, they still left gaps that have yet to be filled, especially from a comprehensive view.

Inferences

The authors of the literature discussed above are generally excellent in recording statistical facts and applying academic theories; however, many of the sources, such as those used by Ann Sumner Holmes, have distant publication dates (1860s). Additionally, sources such as Jérôme Bourgon’s article “Historians at the Court: How Cultural Expertise in Qing Law Contributes to the Invention of Hong Kong ‘Chinese Customary Law’” do not show readers a tight association between the title and the paper’s topic. Furthermore, by looking at some sources’ date of composition, we may question the accuracy of the literature because the researchers might have been restricted from delivering truth to their readers. For instance, Wen’s “The Chinese Family from Customary Law to Positive Law” was published in May 1966, right on the verge of the Chinese Cultural Revolution. This meant Wen could have been limited in his right to speak as an academic researcher.

These debates set the historical background of the cases analyzed in the Reevaluations section of this paper. Though the cited authors managed to dive into their specified research topics from different perspectives, there is no literature on my topic with a synthesis of the academic lenses mentioned above. In this paper, I attempt to answer the following research questions:

1. What are the necessary steps to promote gender equality in jurisdictions?

2. How did the matrimonial codes in colonial Hong Kong compare to those in Mainland China, Britain, and colonial Singapore in demonstrating the lawmakers’ attitudes toward gender equality?

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34 Wen.
Methodologies: The Significance of Feminism and Its Effects in Pursuing Gender Equality

What Women Should Do

Gender inequality arose from our primitive antecedents thousands of years ago. To eradicate this condition through the concept of feminism, no group serves better as candidates of great import than females because of their deficiency of rights as human beings compared to their counterparts; however, during the process, females should be conscious of their situation, which means they should neither step back cravenly nor advance mindlessly. The characteristics of the current situation and the rational actions suggested under the guidance of feminism are available in various books, with the most notable being *Toward a Feminist Theory of the State* by Catherine MacKinnon, a radical feminist scholar.

To pursue gender equality, women must undergo “consciousness-raising,” in which they must reorganize and view their experiences critically.35 They must utilize society as a figurative mirror, so it reflects their lives under the prosecution of masculine forces. Specifically, women are “pushed into [service] jobs, made to apologize for existing, taught to be unable to do anything requiring any strength at all, like opening doors and bottles.”36 With the help of the mirror, women can rediscover the consciousness grounded in the thawing of masculine domination, where they cast doubt about their self-concept: who they really are, how they are treated in families, and more.37 This meditative step then expands to the other females in society, where it finally settles into the conclusion that women were not born to be persecuted but that men view them in a stereotypical way with the assistance of physiology and it is the women who show complacency about this definition, the “truth,” and the process of being molded into “deformed postures” of serving in inferior jobs and mentally relying on their masculine relatives.38 This is exactly how some women restrict themselves from being subordinated by their social relationships with men.

The most pervasive part of consciousness-raising is the realization of the imbalance of power between the sexes, in which women sense that masculine power lives inside them, even though the power is not enshrined in any legalized statutes. After connecting with the reanalysis of self-concept, this sensation provides women with a verified interpretation of their discontent not as “crazy maladjusted,

35 Ibid., 84.
37 MacKinnon, 88.
38 Ibid., 90.
hormonally imbalanced, bitchy, or ungrateful”\textsuperscript{39} but as an appropriate response to the situation. Thus, the necessity to act for a change toward balance in power arose from the depths of women’s minds, supported by consciousness-raising with correct knowledge.

There are several limitations in the overall analysis of consciousness-raising. Though MacKinnon states the connection between feminism and science, asserting that science symbolizes objectivity while feminism stands for subjectivity,\textsuperscript{40} she does not provide an effectual elaboration that connects the two terms to their attached interpretations, which weakens the bond between this paragraph and the rest of the analysis. In addition, the author connects her statements with Marxist theories. Although MacKinnon’s reattachment to feminist theories at the end of this segment may sound persuasive, it is unnecessary for her to restate terms that are relevant to Marxism only.

**Feminist Jurisprudence: A Change for the Sake of Women**

After the awakening of feminist consciousness, it is necessary for women to take further steps in advancing their desire to change their current conditions in society. This step, feminist jurisprudence, is vital but risky. On one hand, it further objectifies women’s actions under feminism.\textsuperscript{41} On the other hand, feminist jurisprudence leaves abstract rights, which authorize masculine hegemony, in awe, for it “has never been tried.”\textsuperscript{42} With this step achieved in the future, the figurative balance that tips toward the masculine will return to its neutral form.

Although women’s participation in consciousness-raising continues to increase, women are still members of a world in which they have no right to compose or modify domestic constitutions, redefine laws, or show their experiences externally. The main reason for this phenomenon is that men are not only capable of determining the characteristics of laws and constitutions but also unrestricted from actions that threaten feminine dignity. With such a dehumanizing background, there are various ways for women to initiate change to promote neutrality between the sexes, but why is it perspicacious for them to choose the law? MacKinnon provides us with a piece of background information:

Marx saw the modern state as “the official expression of antagonism in civil society.” Because political power in such a state could emancipate the

\textsuperscript{39} Ibid., 100.
\textsuperscript{40} Ibid., 97.
\textsuperscript{41} Ibid., 248.
\textsuperscript{42} Ibid., 249.
individual only within the framework of the existing social order, law could emancipate women to be equal only within “the slavery of civil society.”

Marx believed that women were restricted to the maximum extent from a legal perspective, in which they were blindfolded from seeing what sexual equality really looks like. In this case, it is necessary for women to critically view the laws in society and to advocate a modification of the legislation to “change the state’s relation to women and the women’s relation to men.” Under feminine jurisprudence, the first step is to be equipped with concrete reality. This can be partially completed by consciousness-raising and then fulfilled by women’s knowledge of the dehumanizing context of the law that implicitly supports the exclusion of females from inheritance, the denigration of women as entertainment, the regulations set for women in reproductive issues, and many others. The next step is to obtain a deeper understanding of masculine advantages. Eventually, these privileges encourage men to mistakenly believe in the naturalness of participating in sexually violent actions such as rape, prohibiting their spouses from abortion, and producing pornography to emphasize feminine subordination. When men are deprived of these extra rights, they feel they are being treated unequally in society. With effectual evidence, sexual inequality can be presupposed as a “factual backdrop,” which can exert pressure on the organizations in charge of composing laws, thereby forcing them to prioritize sexual equality and establish a new relationship between life and law, according to MacKinnon.

Though MacKinnon introduced the importance of feminine jurisprudence, there are ways in which her analysis is limited. For one thing, the differentiation between analysis and feminine jurisprudence is vague, which means it is plausible to unite the two. In addition, the examples mentioned by MacKinnon to support her point about masculine advantages are effective yet unique. In fact, it is better to utilize some common examples in this field, including marriage and inheritance.

As a theoretical framework dedicated to justify gender equality, feminine jurisprudence is an effective method in the impending sections of this paper, where I will talk about two cases judged in colonial Hong Kong during the 1960s and 1970s, since it binds feminism with legal judgments.

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43 Ibid., 240.
44 Ibid., 244.
45 Ibid.
46 Ibid.
47 Ibid., 247.
48 Ibid., 248.
Two Cases in Colonial Hong Kong

The following cases were selected from an online dossier of jurisdictions judged in colonial Hong Kong between the 1950s and the 1980s.

1973 Divorce Jurisdiction

Luk Chan Lai Wah, a citizen of colonial Hong Kong, initiated divorce proceedings by filing a petition for divorce on November 16, 1972. In the petition, she sued her husband, Luk Chi Man, and demanded periodic payments from him for the 10-year-old child of the family. Though such a petition could make the jury turn against the first respondent easily, Registrar Jones analyzed the property backgrounds on both sides before making an ultimate decision.

Registrar Jones first collected information from the first respondent, Luk Chi Man. He discovered that Luk worked as a canvasser at Messageries Maritimes, a shipping company, with a monthly salary of $1,450. Additionally, Luk had a total of $2,000 in his two bank accounts. Plus, he had 1000 shares in Success Holdings, with $5.50 per share currently. Astoundingly, a large percentage of the first respondent’s property came from housing.

Not long after his marriage to Luk Chan Lai Wah in 1961, Luk Chi Man bought a flat in Tai Kok Tsui for $15,000 but soon posted it for rent. The tenants in his flat paid him $250 a month. Temporarily, Austin Mansion and Kiu Yip Mansion had allured Luk at the beginning of the 1960s, but he gave them up in 1965, when he sold the latter for $50,000. In 1966, Luk bought a flat in Star Court for $70,000 with a deposit between $25,000 and $26,000; however, such an expensive flat could not satisfy Luk, so he offered it to others, and renters agreed to pay him $1,800 a month. Notably, this agreement was witnessed by Luk’s father. As time passed, Luk became financially stronger. Thus, after abandoning one segment of his property, a flat in Coral Court, in May 1972, Luk bought a flat at 14C Broadway Street for approximately $180,000, living there with his father and stepmother. Unexpectedly, because of his “intention to avoid or to defeat the claims of the petitioner,” Luk “sold” the flat on Broadway Street to his father and rejected the financial payments offered by the elderly man.

Compared to her husband, the petitioner was significantly more vulnerable in her finances. Though her job as an employee in a wig factory provided her with $450 monthly, she had stopped working because of health problems, including insomnia. In addition, Luk Chan Lai Wah had a flat in her name, officially a matrimonial home at North Point. Luk Chi Man voluntarily paid her $600 a month. Such conditions

49 Luk Chan Lai Wah v. Luk Chi Man and Another [1973], Hong Kong Family Court, Judgment No. FCMC457/1972 (7 April 1973).
could not satisfy Luk Chan Lai Wah’s monthly expenses ($1,600 per month: $600 for food, $100 for electricity, $300 for clothing and medicine, $100 for school fees, and $500 for rent). She therefore had to borrow money from her younger sister to pay for the expenses above her income.

After collecting this vital information, Registrar Jones reevaluated Luk Chi Man’s monthly income. Because Luk Chi Man’s income originated from rent payments and personal salaries, he had $3,500, with nearly $800 for mortgage. This left him with $2,700. In contrast, Luk Chan Lai Wah had no personal capital assets but relied on her husband’s voluntary payments. Registrar Jones therefore decided to rescue the petitioner and her child financially. He concluded that the “correct figure” to award the petitioner was “$750 per month” and “$350 for the child’s periodical payments.” Even though Luk Chi Man should have been punished for his attempt to gloss over his violations against the Matrimonial Proceedings and Property Ordinance—one of Hong Kong’s law codes independent from Chinese customary law—however, Registrar Jones decided to dilute his judgment by guaranteeing his readers that “it will be open to more severe scrutiny in later proceedings.”

1969 Jurisdiction about the Li Wah Fuk Tso

In 1908, Li Wah Fuk, a member of the Li clan in Hong Kong, died. He left his property to his young wife, Li Tang Shi. Conventionally, Li Tang Shi should have been given the right to manage the property until a suitable heir emerged; however, Li Wai Kwong, who claimed to be Li Wah Fuk’s heir, instigated the district officer and the elders in the clan to remove Li Tang Shi from the managership of the Li Wah Fuk Tso (Tso signifies that the owner of something is dead and his property belongs to the family) on November 8, 1967. This action infuriated Li Tang Shi and many others on her side, and they filed a petition to the court in 1969.

Many things happened before the district officer made his decision:

March 28, 1912—The district office authorized the plaintiff and two other men as temporary managers of Li Wah Fuk’s property. The property was transferred from personal land to family land.

February 24, 1959—The first defendant demanded involvement in the maintenance of the Li Wah Fuk Tso.

June 9, 1959—The first defendant was given the chance to restate his determination to become Li Wah Fuk’s successor.

June 20, 1959—Mr. Fraser, Chau Chi Chung, first defendant—The first defendant was the rightful heir to Li Wah Fuk’s property.

50 Ibid.
51 Ibid.
February 26, 1965—The plaintiff intended to transfer certain proportions of the Li Wah Fuk Tso to the first defendant but changed her mind soon after.

August 1, 1965—The first defendant was appointed as an additional manager of the Li Wah Fuk Tso.

April 26, 1967—The first defendant requested that District Officer Yuen Long cancel the plaintiff’s managership, claiming that the old lady had not been fulfilling her duties (paying respects to Li ancestors).

May 7, 1967—Yuen Long sent the plaintiff a letter asking her for an explanation but received no reply.

June 27, 1967—Objections to the removal of Li Tang Shi from managing the Li Wah Fuk Tso were prohibited.

October 20, 1967—The plaintiff’s solicitors asked for an extension for their client to reply to the charges against her. This was refused by District Officer Sweetman, who wanted to finish the case as soon as possible.

People who participated in the judgment expressed their ideas about different segments of the case. The first clash in the jurisdiction focused on the effect of adding Tso to Li Wah Fuk’s property. Mr. Aker-Jones, an administrative officer, believed that when the word is added to someone’s name, it not only signifies the death of the person but also prevents the property from being alienated by an individual like the plaintiff; however, Tang Pui King, the younger brother of the plaintiff, Li Tang Shi, disagreed. He emphasized his sister’s inviolable right to manage her husband’s property, especially when it came to the addition of Tso. In addition, Tang asserted that the appointment of the two trustees after the implementation of Tso on his brother-in-law’s property was simply a stratagem to restrict his sister from management because of her age when she lost her husband.

Compared to those of the previous two participants, the ideas of Hu Wa Yun, an expert in Qing law, sounded relatively abstruse. In fact, though he affirmed the power of Tso in determining whether someone had died, he disagreed with Mr. Aker-Jones, claiming, “The expression ‘Tso’ refers to a single person only, unlike the expression ‘Tong,’ which means a family group.”

The second clash, a minor one, was about Li Wai Kwong’s role as Li Wah Fuk’s heir. Several elders in the Li clan, as well as the district officer, Mr. Sweetman, supported Li Wai Kwong as the heir of Li Wah Fuk. The elders created a family tree of the clan, in which they discovered that the first defendant, Li Wai Kwong, was the great-great-grandson of Li Tim Sau, the great-grandfather of Li Wah Fuk. Though this piece of physical evidence increased the pro side’s possibility of winning, Chau

Chi Chung, solicitor of the second defendant, Lily Wong, blurred the relationship between Li Wah Fuk and the first defendant. In fact, Chau distanced Li Tim Sau from the first defendant: “But in a family tree contained in a file included as an exhibit, he appears as of the nineteenth generation.” Eventually, Chau’s actions implicitly restricted Li Wai Kwong from achieving his goals.

In contrast, Mr. Sweetman did not provide any evidence to support his position. In fact, he neglected to consider the plaintiff’s vulnerable health during the time of jurisdiction. He believed that the first defendant, Li Wai Kwong, should be given priority to restate and achieve his goal of becoming the heir of Li Wah Fuk, since Li Tang Shi was absent from the 1959 interviews. When he failed to receive any reply from Li Tang Shi when people, including the second defendant, sued her for not fulfilling filial duties such as sweeping the graves of the Li ancestors, he assumed that the plaintiff admitted her misdeeds and that it was fitting to remove her from the managership of her husband’s property and place Li Wai Kwong in her place. Such decisions were criticized by Mr. Litton, a solicitor on the side of the plaintiff. He believed that Mr. Sweetman’s judgments violated the law of natural justice.

Coram Briggs, the judge for this case, based his opinions on his recognition of Chinese customs and the New Territories Ordinance, a law code that supported Chinese customary law. He made his most vital agreement with the first defendant’s side by claiming that the interview on June 15, 1959, did not threaten the plaintiff’s right as the sole trustee of the Li Wah Fuk Tso. The only notable thing accomplished by the interview was the certification of Li Wai Kwong’s rights as heir, and such certification did not violate the plaintiff’s desires, for she had not adopted a suitable heir before the appearance of Li Wai Kwong. Tang Pui King’s second assertion could not stand, because he failed to provide any supportive evidence.

Briggs disagreed with several of the arguments on the side of the first defendant, however. He argued that it was not necessary to appoint additional trustees for the purpose mentioned by Mr. Aker-Jones. The clan should be aware that the plaintiff could not be the heir by custom; thus, nobody should be there to restrict her rights because she should give up her managership when a credible heir appeared. Also, the nomination of the first defendant as the rightful heir did not stand, for those who had made the decision had not asked the plaintiff for approval. Plus, Briggs believed that the plaintiff had certain obligations toward the Lis but that the first defendant’s side could not use that as an excuse to remove her because it “was a serious matter and affected not only her dignity but perhaps her pocket also.”

Based on the major arguments made by the participants, Briggs concluded that the first defendant and his supporters had mainly used the plaintiff’s advanced age as a pretext and therefore, the dictum that attempted to remove the plaintiff from

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53 Ibid.
54 Ibid.
managing the Li Wah Fuk Tso was indefensible and the lady should remain as the sole trustee before the selection of an heir.

Reevaluations of Coram Briggs and Registrar Jones

The Judges in General

Though the two proceedings were judged approximately in the same decade, they are differentiated in the law codes on which they relied and in the judges’ mistakes. First, the law codes on which the two judges based their judgments were different. Registrar Jones relied on the Matrimonial Proceedings and Property Ordinance, a law code independent of Chinese customs. Because of his affirmation of such attitudes toward women, Registrar Jones did not judge the divorce jurisdiction between Luk Chi Man and Luk Chan Lai Wah fairly, especially for the latter, who experienced consciousness-raising before the proceedings. Instead of relying on the Matrimonial Proceedings and Property Ordinance, the case between Li Tang Shi and Li Wai Kwong was judged on the basis of the New Territories Ordinance, which supported Chinese customs.

On the British Mainland

A significant number of parliamentarians in the British Isles considered married women’s rights in property management a vital issue. Propelled by such a mindset, the topic was raised in Parliament in 1868, and the solicitor general already considered women’s inequality in property rights a “question of justice” rather than a problem that affected women only. Although the solicitor general was the only person who made this argument, the power of his ideas should not be denied, as he was the one who summed up the debate. Fortunately, the advocacy of parliamentarians such as the solicitor general paid off. In 1870, the British Parliament finally passed the Married Women’s Property Act, which allowed women to “keep their wages and investments independent of their husbands, inherit small sums, hold property either rented or inherited from close family, and made both parents liable for children.” This was only a preliminary step in the emancipation of British women, however. In 1882, the British Parliament amended the act by extending women’s rights:

A married woman shall, in accordance with the provisions of this Act, be capable of acquiring, holding, and disposing by will or otherwise, of any real or personal

55 Russell Gurney et al., Married Women’s Property Bill (18 May 1870).
property as her separate property, in the same manner as if she were a feme sole, without the intervention of any trustee. . . .

A married woman shall be capable of entering into and rendering herself liable in respect of and to the extent of her separate property on any contract. 57

If Li Tang Shi had lived in Britain during the 1880s, her rights as a suitable candidate for property ownership might not have been neglected. Specifically, she could have managed her husband’s property permanently instead of facing pressure to adopt a male relative whose relationship to her husband was of questionable proximity. Besides, with these policies in effect, Li Wai Kwong would not have had the chance to demand his rights to manage Li Wah Fuk Tso as a trustee, especially by encouraging the Hong Kong court to abolish the plaintiff’s rights of managing the tso with the excuse of not paying respect to the ancestors in the clan. Thus, considering the Married Women’s Property Act issued in 1882, British women attained “female jurisprudence,” whereas until the handover of Hong Kong to the PRC in July 1997, Hong Kong women were treated as objects who hardly deserved human rights.

To extend the Married Women’s Property Act in 1882, a judicial amendment that did not provide sufficient details for solutions to matters like the case between Luk Chan Lai Wah and Luk Chi Man, the British legislation issued the Matrimonial Proceedings and Property Act in 1970. The first two articles in the third section of this amendment clearly state:

Section 3: Financial provision for child of the family in cases of divorce, etc.

(1) Subject to the provisions of section 8 of this Act, in proceedings for divorce, nullity of marriage or judicial separation, the court may make any one or more of the orders mentioned in subsection (2) below—

(a) before or on granting the decree of divorce, of nullity of marriage or of judicial separation, as the case may be, or at any time thereafter;

(b) where any such proceedings are dismissed after the beginning of the trial, either forthwith or within a reasonable period after the dismissal.

(2) The orders referred to in subsection (1) above are—

(a) an order that a party to the marriage shall make to such person as may be specified in the order for the benefit of a child of the family, or to such a child, such periodical payments and for such term as may be so specified;

(b) an order that a party to the marriage shall secure to such person as may be so specified for the benefit of such a child, or to such a child, to

57 Married Women’s Property Act, 1882, 45 & 46 Vict.
the satisfaction of the court, such periodical payments and for such term as may be so specified;

(c) an order that a party to the marriage shall pay to such person as may be so specified for the benefit of such a child, or to such a child, such lump sum as may be so specified.58

If these articles had been in effect in Hong Kong, it would have been obvious that Luk Chi Man had not fulfilled his financial responsibility as a father under this article, and Registrar Jones would have further elevated the petitioner's financial assets to a value that was at least similar to that of the first respondent’s assets.

Though the first respondent and Luk Chan Lai Wah had been divorced for a year (in March 1972), he was never emancipated from the role of father. As a parent, he should ensure that his child had a pleasant life. Unfortunately, Registrar Jones’s decision did not provide the first respondent with the chance to fulfill this paternal obligation. According to the petition, Registrar Jones made only the decision that “[i]n all the circumstances I am of the opinion that the correct figure to award the petitioner for maintenance pending suit is the sum of $750 per month and for the child a periodical payments order of $350 per month, payments to commence on 1 April 1973.”59 Under the Matrimonial Proceedings and Property Ordinance, such a decision was still deficient in supporting Luk Chi Man’s child with his wife. Because the court had given the petitioner custody of the child, she required substantial assets to ensure that her child had a pleasant life. Having no capital assets of her own would make Luk Chan Lai Wah’s life more difficult because she needed money to pay for her child’s education (not urgent during the year she filed the petition but potentially crucial in the future) and other daily demands. She could not rely on her husband or relatives forever, for these people could benefit her only temporarily. After spending what they had lent to her, Luk Chan Lai Wah would have to figure out how to repay her benefactors, which was another challenge in her life.

In the PRC

The Chinese Mainland court had a different law system regarding the issue around the time the case took place. In the 1950s, supported by domestic statutes, Chinese women’s position in society rose to an unprecedentedly high extent. This phenomenon is reiterated in Articles 7, 8, 10, and 12 of the 1950 amendment of the Marriage Law of the People’s Republic of China:

Article 7: Husband and wife are companions living together and enjoy equal status in the home.

59 Luk Chan Lai Wah v. Luk Chi Man and Another.
Article 8: Husband and wife are in duty bound to love, respect, assist and look after each other, to live in harmony, to engage in productive work, to care for their children and strive jointly for the welfare of the family and for the building up [of] the new society.

Article 10: Husband and wife have equal rights in the possession and management of the family property.

Article 12: Husband and wife have the right to inherit each other’s property.60

Article 7 broadly stated the eradication of women’s subordination to their husbands, and this assertion was gradually specified in the articles that followed. If we view these exemplary statutes from a synthesized viewpoint, we can see that the government of the PRC treated women as human beings rather than as objects they could easily trick and put restrictions on.

Though Coram Briggs disapproved of the first defendant’s excuses, he evidently did not claim that Li Tang Shi, wife of Li Wah Fuk, had either an equal status with her husband at home or the congenital right to manage and possess the Li Wah Fuk Tso, according to what was stated in Articles 7 and 10 of the PRC’s New Marriage Law (1950). Coram Briggs’s true position in the matter thus remains implicit. If another male member from the Li family had been in Li Wai Kwong’s place with excuses that correlated with ancient Chinese customs, Coram Briggs might not have offered strong disagreements. In fact, he might even have declared that the first defendant had won the petition. If these articles had been applied to matrimonial cases in Hong Kong during the 1950s, Coram Briggs would likely have been determined to view Li Tang Shi’s gender as a natural trait rather than a disadvantageous characteristic. In that case, he would have declared the plaintiff, Li Tang Shi, triumphant when she used this petition to fight for what she deserved as a married woman.

As for Luk Chan Lai Wah and Luk Chi Man, the Chinese legislature made a clear statement in Article 23 of the New Marriage Law of the People’s Republic of China (1950) that emphasized the ex-husband’s obligation to ensure a fair property division between him and his ex-wife:

In case of divorce, the wife retains such property as belonged to her prior to her marriage. The disposal of other family property is subject to agreement between the two parties. In cases where agreement cannot be reached, the people’s court should render a decision after taking into consideration the actual state of the family property, the interests of the wife and the child or children, and the principle of benefiting the development of production. In cases where the property allocated to the wife and her child or children is

60 People’s Republic of China, New Marriage Law, 1950.
sufficient for the maintenance and education of the child or children, the husband may be exempted from bearing further maintenance and education costs.\textsuperscript{61}

Additionally, Article 21 emphasized the unbreakable relationship between a father and a child despite divorce with the child’s mother:

If, after divorce, the mother is given custody of a child, the father is responsible for the whole or part of the necessary cost of the maintenance and education of the child. Both parties should reach an agreement regarding the amount and the duration of such maintenance and education. Lacking such an agreement, the people’s court should render a decision.\textsuperscript{62}

In Luk Chan Lai Wah’s petition, it was obvious that the first respondent had not only allocated most of the family’s financial property but also failed to bear certain proportions of the financial costs in maintenance and education for the petitioner and their child. Such an action in Communist China would have been a violation of the articles above.

Under articles relevant to divorce in the Marriage Law of the People’s Republic of China (1950), officials like Registrar Jones would first have allowed the petitioner and the first respondent to reach a consensus on how much each side should pay for maintenance and education. Since there would be a possibility of the two not reaching an agreement, Registrar Jones would have made the ultimate judgment, wherein the first respondent would have been forced either to balance the amount of property he and the petitioner owned or to numerically increase his financial assistance of Luk Chan Lai Wah each month.

\textit{In Colonial Singapore}

Singapore was once a colony under the British Empire. The Singaporean legislature issued the Women’s Charter (Chapter 353), which protected women’s rights, in September 1961. Article 51 of this charter states:

Subject to the provisions of this Act, a married woman shall—

(a) be capable of acquiring, holding and disposing of, any property;

(b) be capable of rendering herself, and being rendered, liable in respect of any tort, contract, debt or obligation;

(c) be capable of suing and being sued in her own name either in tort or in contract or otherwise and shall be entitled to all remedies and redress for all purposes; and

\textsuperscript{61} Ibid.

\textsuperscript{62} Ibid.
(d) be subject to the law relating to bankruptcy and to the enforcement of judgments and orders, in all respects as if she were a feme sole.63

Regarding possession of family property, Article 60 of the Women’s Charter states:

A married woman who is an executrix or administratrix, alone or jointly with any other person or persons, of the estate of any deceased person, or a trustee alone or jointly as aforesaid of property subject to any trust, may sue or be sued, and may transfer or join in transferring any movable or immovable property belonging to the estate or trust without her husband as if she were a feme sole.64

Based on the articles above, Li Tang Shi would not have been disadvantaged in her petition, because her actions (such as filing a petition) would have been verified by Article 60 of the charter. Specifically, not only could she have sued Li Wai Kwong for his cunning stratagems, but she also could have legally transferred property to other people; yet, looking only at Article 60 seems to limit Li Tang Shi’s rights because the article would not validate her right to possess the Li Wah Fuk Tso. If we synthesize these two articles, however, we can see that, compared to colonial Hong Kong, the Singaporean legislature was significantly fairer to married women in their right to possess property. In fact, as the wife of Li Wah Fuk, Li Tang Shi could have either possessed the Li Wah Fuk Tso or transferred the ownership to someone she trusted.

The male participants in this case, such as Mr. Sweetman, would not have placed the first defendant immediately after Li Tang Shi intended to transfer some of the Li Wah Fuk Tso to the first defendant. Because the senior possessor had not concretely made Li Wai Kwong the heir, the judicial authorities in Hong Kong would have confirmed the concreteness of the matter before moving further. In fact, if Li Tang Shi had been a married woman under the effects of the Singapore Women’s Charter, she would have had the right to acquire the transferred property (back), according to Article 51. This means that she would still potentially have been a possessor of the Li Wah Fuk Tso and that abolishing her from the management of the Li Wah Fuk Tso would therefore have been denied judicially. If the courts in Hong Kong had relied on this charter to make judicial judgments, Li Tang Shi would have at least been given the opportunity to respond to the charges against her and she could have clarified her decision on managing her husband’s property as a legal candidate for acquiring and holding the Li Wah Fuk Tso. Specifically, if she no longer had the intention to withdraw her decision to transfer certain proportions of the Li Wah Fuk Tso to the first defendant, Li Tang Shi could have emphasized her decision to

64 Ibid.
continue as manager in her responses to the first defendant’s stratagems. Such an opportunity would have greatly mitigated the disadvantages that Li Tang Shi encountered from her absence in meetings between the first defendant’s side and governmental officials in Hong Kong.

For jurisdiction between Luk Chan Lai Wah and Luk Chi Man, the Singaporean Women’s Charter would have ensured that women had more rights. The first three parts of Article 114 of the charter clearly state:

Article 114: (1) In determining the amount of any maintenance to be paid by a man to his wife or former wife, the court shall have regard to all the circumstances of the case including the following matters:

(a) the income, earning capacity, property and other financial resources which each of the parties to the marriage has or is likely to have in the foreseeable future;

(b) the financial needs, obligations and responsibilities which each of the parties to the marriage has or is likely to have in the foreseeable future;

(c) the standard of living enjoyed by the family before the breakdown of the marriage.65

In her petition, Luk Chan Lai Wah was significantly disadvantaged in the first two parts, even though she and the first respondent’s conditions in the third part were not introduced in detail by Registrar Jones. Under the effects of this article, Registrar Jones would have mediated the case in a way similar to what he might have done under British law. Specifically, he would have paid more attention to part (b) in the article above, an aspect that he neglected under the Matrimonial Proceedings and Property Ordinance. According to the petition, Luk Chan Lai Wah had an extra obligation that her ex-husband did not have, which was to take custody of her 10-year-old child. By realizing such a situation, Registrar Jones might have elevated the monthly payments that the first respondent provided to the petitioner and her child, to a value that correlated with her future responsibilities.

Validations of the Participants’ Actions from a Feminist Perspective

Luk Chan Lai Wah’s reactions were rational and suitable as she went through the process of consciousness-raising. She filed the petition because of her reevaluation of self. She not only discovered her identity as her husband’s subject but also realized her unfair position in society. As a matter of fact, Luk Chan Lai Wah found that she was a woman incapable of managing her livelihood individually who must condescend to ask her ex-husband for periodic assistance ($600 a month).

65 Ibid.
Additionally, though she worked humbly in a career parallel to that of Luk Chi Man from a social perspective, her monthly salary was only $450, while her husband (a canvasser) received $1,450 per month. That was the preliminary step in consciousness-raising.

Luk Chan Lai Wah had considered her life and found that she had gradually become accustomed to a certain quality of life. She had been satisfied with being her husband’s wife, pleased with having Luk Chi Man as a benefactor, and complacent in her minute amount of property because of her gender. Overall, Luk Chan Lai Wah realized that she had implicitly admitted the validity of the stereotypical opinions imposed by men on women. Fortunately, she sensed the erroneousness of such a mindset, realized that she had the right to live in a style equivalent to that of her husband, and understood that her continued condescension to males would only make them more triumphant. Luk Chan Lai Wah also reconsidered masculine privileges in society and connected them with herself. In fact, she found that she not only had accepted her subordination to Luk Chi Man but had also affirmed other men’s claims that their rights were naturally given and did not require support by legal statutes. When sensing that men like her husband used these values as excuses for involvement in misdeeds such as adultery, however, she had realized that she, someone silenced by Chinese customary law and ignored even though “no law silences women,” had made a mistake in accepting patriarchal dominance. After undergoing the core segment of consciousness-raising, Luk Chan Lai Wah therefore found it necessary to file the petition and argue for female jurisprudence, gender equality, and feminine emancipation in the long term.

Li Tang Shi also went through consciousness-raising, reevaluating her status in society and her reactions to it. After reflection, Li Tang Shi found herself stuck in a separate class for her gender, a place used by the first defendant’s side as an excuse for alienating her from the Li Wah Fuk Tso.

Li Tang Shi had married Li Wah Fuk, a man who was approximately midway between a proletarian and a bourgeois, a little to the latter side. According to Engels’s theories, it was natural for a woman in such a family to be oppressed, especially in her relationship with her husband. The reasons for oppression could not stand in these proceedings, however, because they basically included only one excuse: The plaintiff was a woman weakened by advancing age and sickness. Such an excuse is weak in both quantity and quality. As a matter of fact, the plaintiff or defendant of a case can be permitted absences only when he/she has insurmountable excuses such as those of health. Li Tang Shi did not violate this requirement with her excuses, which means that the judges and officials engaged in hearing this case should have made decisions with her representatives’ consent; therefore, it was useless for the first defendant and

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66 MacKinnon.
his supporters to relate the plaintiff’s current status to her responsibilities for the Li ancestors and to instigate Mr. Sweetman, an official unwilling to be involved, to remove Li Tang Shi from managing the Li Wah Fuk Tso. Luk Chan Lai Wah should have received fair treatment mainly for her deficiency in property, and Li Tang Shi should have received fair treatment for her rights of management.

Though Coram Briggs was right to reject the removal of the plaintiff, he was mistaken in his judgment relevant to Chinese customary law. According to Chinese custom, women could not inherit family property, so what should the family do when there were no males to succeed? On this occasion, the mother had to adopt a son in the clan to be the heir, just like the plaintiff. From a broad perspective, this action could restrict the further development of the family, especially in the line of the deceased male. In addition, banning women from property inheritance is a priority of the patriarchy to deprive women of their rights. When men are given additional chances to do something women cannot, they receive support from women; however, the biggest benefit men receive is that “their interest itself is enforced and perpetuated and sustained: power.”67 After sensing such an imbalance in power, women need to promote change—“a new jurisprudence, a new relation between life and law,”68—and this is what the plaintiff did as a pioneer in the movement for gender equality. Such a movement would enable those like the first defendant to rise from the depression caused by their failure to obtain additional power.

The primary person to blame was not Coram Briggs but Mr. Sweetman, who convinced the first defendant to continue his impertinent actions and also neglected Li Tang Shi’s basic rights, yet the ultimate peacebreaker in these proceedings was Chinese customary law because of its unfair attitude toward women.

As for Registrar Jones, he made mistakes in judging both sides of the jurisdiction. Although he “awarded” Luk Chan Lai Wah more money, he did not allow her to be financially equal to her ex-husband, because he viewed her demands as pitiful requirements for extra support rather than a demand for basic human rights. Specifically, Luk Chi Man could still receive at least $1,450 each month, while the petitioner could only have $1,100. Such judgments reflected the registrar’s unwillingness to promote gender equality, yet Registrar Jones was not the primary peacebreaker to blame. His actions were guided by the Matrimonial Proceedings and Property Ordinance, a law code native to Hong Kong that opposes fairness between the sexes.

67 Ibid., 94.
68 Ibid., 249.
Conclusions

The two cases discussed were both judged in colonial Hong Kong, with foreigners appointed as juries, but there were differences in these two cases. First, the case in 1973 was judged under the Matrimonial Proceedings and Property Ordinance, a law code independent from ancient customs in China. In contrast, the 1969 case was judged under the New Territories Ordinance, a legal system that not only was domestic to Hong Kong but also supported Chinese customs: “Section 13 of that Ordinance states that the Court shall have power to recognize and enforce any custom or right affecting land in the New Territories.”

Additionally, the two judges were obviously different in their judgments. Registrar Jones underestimated the importance of the issue and soothed the petitioner by giving her “awards”—but not by punishing Luk Chi Man for his misdeeds—without directly basing his judgments on an ordinance independent from ancient Chinese customs. In contrast, Briggs affirmed the basic rights of the plaintiff but still supported Chinese customs, in which women could not inherit family properties.

The plaintiffs/petitioners of both cases would have received fairer judgments in Britain, the PRC, or colonial Singapore at the time they initiated proceedings. The judicial authorities in Britain and Singapore would have followed the specified versions of fathers’ and widows’ responsibilities and rights during their judgments; Chinese legislation gave women like Li Tang Shi and Luk Chan Lai Wah opportunities to express their opinions during adjudication, the same as male participants.

This research gave way to more efficient research, for it proves the crucial perspectives for studies in this discipline to follow. From the following differentiations, we can see that women’s status in colonial Hong Kong was incomparably more subordinated than that of women in Britain, the PRC, and colonial Singapore, and their positions gradually worsened during the second half of the twentieth century because the guarantee of female rights was considered inconsequential when the local legal system abolished the utilization of Ta Ching Lu Li in 1972.

Apart from the findings above, there are several ways to improve this research. First, the effectiveness of this study would be elevated to a significantly higher level if I were to reference sources from multiple scholars. These scholars can be either experts in other perspectives relevant to my study or historical figures who have contributed extensively to my research topic. Also, it would be better if I were to document more primary sources in this study, which could help increase the

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69 Briggs.
credibility of my study because primary sources reflect historical scenarios with maximum accuracy. I thus believe that case studies explicated by feminism and additional disciplines such as economy can be conducted in the future.

My future research can be conducted in a better way. For one thing, I can choose a topic closer to the forefront of the academic community. If I continue with a topic that few scholars have laid their hands on, I may face great challenges in obtaining credible sources to support my research. Additionally, although I can continue with cross-national comparisons in matrimonial jurisdictions, my methodologies can be more diverse. Specifically, I can reference additional academic disciplines along with feminism. The most important thing for me to solve in future studies is to associate my analyses with Chinese customs directly.

**Background and Reasons for Study**

Throughout this study, it is undeniably true that the reasons for me to select 1960 through approximately 1975 as the time frame for analysis and that the stimulation for me to pick the two cases above are quite abstruse. I thus provide clarifications in these aspects. First, I chose this time frame for my study because I found this period of high practicality in my research’s discipline. Given that Hong Kong was connected to Britain because of colonization, China because of history, and colonial Singapore because of similar experiences, any of these regions for comparison should depict social traits similar to those in Hong Kong. Roughly before the 1960s, China was in the middle of political and economic turmoil (communists vs. nationalists and socialist reformations), which means that gender issues did not receive much attention in Chinese society. As for periods later than the 1970s, the handover of Hong Kong to the PRC was already on the front pages of the schedules of both the Chinese and British governments, which meant that Hong Kong was not substantially a foreign colony. Thus, it turned out that only the midpoint between these two eras (1960 to approximately 1975) was the most suitable for this topic.

Additionally, I selected the cases discussed for their comprehensiveness. On the website that documents the cases judged in colonial Hong Kong and a few cases judged in modern Hong Kong, the documentation for these cases contains the most detailed descriptions and diverse references to statutes in matrimony and property inheritance. As for the other cases in the same era, though most of them were based on the same statutes, their recordings were so generalized that it would be harder to understand the details.
THE EFFECT OF COVID-19 ON SUBSTANCE USE AND MENTAL HEALTH ON A COLLEGE CAMPUS

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MENTOR: AMY PEAK

Abstract

In this research, the author surveyed a university population to determine the impact that COVID-19 has had on substance use and mental health. Current research provides significant data indicating worsening mental health and substance use. This paper looks at how applicable those trends are to a small private university in Indianapolis, Indiana. The data included 261 respondents composed of students, faculty, and staff of the university. The results reveal that college students, faculty, and staff experienced statistically significant increases in feelings of unhappiness, depression, loneliness, hopelessness, agitation, and irritability during the pandemic compared to before the pandemic. Data analysis of survey responses reveals that COVID-19 had a negative impact on mental health and substance use and decreased the frequency of sharing of e-cigarette devices.

Keywords: COVID-19, pandemic, mental health, substance use, nicotine, vape, e-cigarette, depression, anxiety

On March 11, 2020, the World Health Organization declared a global COVID-19 pandemic. Shortly thereafter, a nationwide emergency and travel ban was implemented in the United States and shutdowns began to occur across the country. In December of 2020, an emergency use authorization was granted for the first COVID-19 vaccine. Initially, vaccines were in short supply. As the pandemic progressed, a number of variants emerged. In October 2021, the Centers for Disease Control (CDC) added mental health conditions to the list of risk factors associated with severe illness from COVID-19 (CDC, 2022). In December 2021, the US Surgeon General issued an advisory on youth mental health, recognizing an existing youth mental health crisis before the pandemic and how COVID-19 had continued to increase rates of depression, anxiety, and hopelessness, as well as thoughts of suicide (Office of the Surgeon General, 2021). Recent research has shown that the pandemic has led to worsening mental health and increased substance use, but specific scientific data regarding these changes are relatively limited, especially in a collegiate community. This research paper attempts to dive into this issue and discover the effect of the pandemic on substance use and mental health, specifically at the university level.
The American Psychological Association explains that addressing the mental health and substance use crisis is an essential part of the pandemic response (APA, 2020). Prioritizing mental health issues in a strategic plan is essential for improving the mental health care system and promoting systemic changes regarding mental health and the stigma surrounding it. Dumas et al. (2020) provided key findings supporting evidence of increased substance use by adolescents throughout the pandemic even after lockdown. Common motives for participating in these activities, such as social pressures and appearances to maintain reputation, are therefore not as influential as initially thought, since even when students were taken out of such environments, they continued to engage in these behaviors.

Giovenco et al. (2021) described the key drivers of shifts in usage patterns in a qualitative study. The most relevant finding was the linkage to mental health issues and associated substance use behaviors. Mostly depression, anxiety, and isolation affected increased usage behaviors (Giovenco et al., 2021). Beliefs about COVID-19 affected behavioral responses such as social distancing and substance-use cessation. Frequency of usage was directly related to beliefs about COVID-19 (Kelly et al., 2021). This relationship between personal beliefs and behavior is the psychology underpinning supporting the observed changes. In a study design modeled after Kelly et al. (2021), Czeisler et al. (2020) found similar results consistent with previous findings. Anxiety, depression, and PTSD were prevalent mental health conditions that rose throughout the duration of the pandemic. Sokolovsky et al. (2021) found the same trends and highlighted the impact of deteriorating mental health on substance use tendencies. Anxiety that came with moving back home and away from the collegiate community was closely linked with decreased odds of pausing usage (Sokolovsky et al. 2021).

Because mental health and substance use are so dependent on one another, this research study surveyed the prevalence of both in the campus community before the pandemic and since the beginning of the pandemic. The primary objective of this research study was to examine the impact of COVID-19 on mental health and substance use by examining trends of usage and frequency before the pandemic compared to during the pandemic. The secondary objective was to examine the impact of COVID-19 on the sharing of vaping/e-cigarette devices.

Methods

This was a cross-sectional survey. The research was submitted to the Institutional Review Board on March 2, 2021. It was approved on April 20, 2021. Data were collected from May 19 to June 28, 2021. A questionnaire was developed in Qualtrics and distributed online via university email listservs and electronic news digests. At the time of survey distribution, virus activity was low, the Marion County mask mandate had been lifted, three COVID-19 vaccines had received emergency use
authorizations, a vaccination clinic had occurred on campus, and the Delta variant was just beginning to emerge in Indianapolis. The survey was self-administered and included four subsections as described below.

**Questionnaire**

The initial portion of the questionnaire identified the demographic characteristics of the participant populations. The second section of the survey involved the use of a 5-point Likert scale ranging from *Never use* to *Daily/Near Daily use*. Participants were asked to rate the frequency of their substance use behaviors pre-pandemic (February 2020) and mid-pandemic (May/June 2021). This assessed the use of products such as nicotine, alcohol, prescription drugs, cannabis, and other illicit drugs. The next portion of the survey took a deeper dive into the specific habit changes regarding sharing of vaping/nicotine devices. The final portion of the survey included a mental health 5-point Likert scale assessment, ranging from *Never* to *Daily/Near Daily*, to assess the participants’ emotional and mental well-being. The survey has been included as Appendix A for reference.

**Participants**

Candidates were invited to take the survey through various email listservs, university electronic news digests, and social networking sites. To be eligible to participate, individuals were required to be over 18 years of age and to have an affiliation with the university (student, faculty, or staff). The invitation included a link to the Qualtrics survey. At the end of the survey, participants had the voluntary option to be redirected to another, nonconnected, site to enter their name and contact information to be entered into a drawing for small incentives, including a university-themed back sack and beach towel.

**Statistical Analysis**

Statistical analysis was conducted using Statistical Package for Social Sciences version 23.0 (SPSS v26.0). Continuous data were described using mean and standard deviation for variables considered to be normally distributed and using median and interquartile range for variables considered to be non-normally distributed. Groupwise comparisons were made using chi-square analyses. Statistical significance was considered with a P value <.05.

**Results**

Two hundred sixty-one people responded to the survey; their demographic data are provided in Table 1. For the substance-use section of the survey (Table 2), respondents were asked to rate their frequency of use for nicotine, alcohol,
prescription drugs, cannabis, and other illicit drugs on a 5-point Likert scale before the pandemic (February 2020) and during the pandemic (May/June 2021). There were no statistically significant differences in the overall frequency of self-reported substance use before compared to during the pandemic; however, the use and sharing of electronic cigarettes/vaping devices decreased during the pandemic. Figure 1 shows that 90% of vape/e-cigarette users were sharing their devices with others before the pandemic, i.e., they would put the device in their mouth immediately after it was in someone else’s mouth. Figures 2a and 2b further examine the 90% of users who shared devices at baseline and report the frequency at which devices were shared pre- and mid-pandemic.

Table 1. Demographic Descriptive Statistics

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<td>%</td>
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<td>%</td>
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<tr>
<td>Latino/Hispanic</td>
<td>2.0</td>
<td>5</td>
<td>2.6</td>
<td>4</td>
</tr>
<tr>
<td>Asian</td>
<td>3.1</td>
<td>8</td>
<td>2.6</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>4.6</td>
<td>12</td>
<td>3.3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Male</td>
<td>21.5</td>
<td>56</td>
<td>20.3</td>
<td>31</td>
</tr>
<tr>
<td>Female</td>
<td>76.2</td>
<td>199</td>
<td>77.8</td>
<td>119</td>
</tr>
<tr>
<td>Other</td>
<td>2.3</td>
<td>6</td>
<td>2.0</td>
<td>3</td>
</tr>
</tbody>
</table>
Table 2. Substance Use, Percentage of Respondents

<table>
<thead>
<tr>
<th>Substance Type</th>
<th>Never Before</th>
<th>Never During</th>
<th>Rarely Before</th>
<th>Rarely During</th>
<th>Occasionally Before</th>
<th>Occasionally During</th>
<th>Often Before</th>
<th>Often During</th>
<th>Daily/Near Daily Before</th>
<th>Daily/Near Daily During</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicotine via vapes/e-cigarettes (JUUL, blu, SMOK, etc.)</td>
<td>90.8 92.1 4.2 2.1 1.3 2.1 1.3 0.4 2.5 3.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nicotine via traditional cigarettes</td>
<td>98.7 97.5 0.4 1.3 0.4 0.8 0.4 0.4 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nicotine via pouches</td>
<td>0 0 0 0 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cannabis via edibles</td>
<td>87.4 86.2 10 10.5 2.5 3.3 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cannabis via vape/e-cigarette</td>
<td>91.6 89.1 4.6 4.6 3.3 4.2 0 1.7 0.4 0.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cannabis via traditional cigarette</td>
<td>92.1 92.1 5.4 6.3 1.7 1.3 0 0.4 0.8 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol (beer, wine, liquor, etc.)</td>
<td>23.8 22.2 19.7 17.6 29.7 27.2 23.8 24.7 2.9 8.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prescription stimulants not prescribed to you (Adderall, Ritalin, Vyvanse, etc.)</td>
<td>100 98.7 0 1.3 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hallucinogens (Ecstasy, MDMA, Molly, LSD, mushrooms, PCP, etc.)</td>
<td>99.6 99.2 0.4 0.8 0 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sedatives or</td>
<td>96.2 96.7 3.3 1.7 0.4 0.8 0 0.8 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>-----------------------------------------------</td>
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<td>--------</td>
</tr>
<tr>
<td>Sleeping pills (Valium, Ativan, benzos, Xanax, Klonopin, Librium, Rohypnol, GHB, etc.) [nonmedical use only]</td>
<td>99.2</td>
<td>100</td>
<td>0.4</td>
<td>0.4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Prescription opioids (morphine, codeine, fentanyl, oxycodone [OxyContin, Percocet], hydrocodone [Vicodin], methadone, buprenorphine [Suboxone], etc.) [nonmedical use only]</td>
<td>99.6</td>
<td>99.6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cocaine</td>
<td>99.6</td>
<td>99.6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
No: I have used a vaping device/electronic cigarette, but have never put it in my mouth after it was in someone else’s mouth.

Yes: I have shared a vaping device/electronic cigarette.

Figure 1. Percentage of Users Sharing E-cig/Vaping Devices

- Rarely (less than 10% of the times I used a vaping device)
- Occasionally (11 -40% of the times I used a vaping device)
- Often (41-80% of the times I used a vaping device)
- Almost always (81-100% of the times I use a vaping device)
Analysis of participants’ responses to mental health-related questions was facilitated by combining the occasionally, often, and daily survey selections (Table 3). The survey assessed two positively phrased emotions: “I feel happy, excited, and hopeful” and “I am happy with where I am at in life.” Both trended downward, meaning that participants felt fewer positive emotions during the pandemic compared to before the pandemic began, as shown in Figure 3. Other statements related to negative emotions—for example, “I feel sad, unhappy, or depressed” and “I feel lethargic, unmotivated, or have no energy” (Table 3). All negative emotions evaluated were experienced significantly more frequently during the pandemic compared to before the pandemic (all P values <.001; Figure 4). The pandemic also significantly affected sleep and food consumption, although not in a uniformly predictable way (p < .001; Figure 5).
Figure 3. Positively Phrased Emotions—Percentage of Respondents Indicating Occasionally, Often, or Daily
Table 3. Participant Responses to Mental Health Statements (%)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Never Before</th>
<th>Rarely Before</th>
<th>Occasionally Before</th>
<th>Often Before</th>
<th>Daily/Near Daily Comparison</th>
<th>O + O + D Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel sad, unhappy, or depressed ($p &lt; .001$)</td>
<td>7.8</td>
<td>5.9</td>
<td>41.1</td>
<td>23.3</td>
<td>10</td>
<td>26</td>
</tr>
<tr>
<td>I feel happy, excited, or hopeful ($p = .006$)</td>
<td>0.5</td>
<td>0.9</td>
<td>0.9</td>
<td>5</td>
<td>12.3</td>
<td>23.3</td>
</tr>
<tr>
<td>I feel lethargic, unmotivated, or have no energy ($p &lt; .001$)</td>
<td>5.5</td>
<td>4.1</td>
<td>34.7</td>
<td>20.5</td>
<td>46.1</td>
<td>32</td>
</tr>
<tr>
<td>I feel hopeless about the future ($p &lt; .001$)</td>
<td>34.7</td>
<td>27.9</td>
<td>42.9</td>
<td>32.4</td>
<td>15.5</td>
<td>25.6</td>
</tr>
<tr>
<td>I feel lonely, isolated, or alone ($p &lt; .001$)</td>
<td>24.7</td>
<td>21</td>
<td>42</td>
<td>20.1</td>
<td>26</td>
<td>35.6</td>
</tr>
<tr>
<td>I have trouble sleeping ($p = .003$)</td>
<td>26.9</td>
<td>21</td>
<td>35.2</td>
<td>25.6</td>
<td>24.7</td>
<td>29.2</td>
</tr>
<tr>
<td>I sleep too much ($p &lt; .001$)</td>
<td>45.2</td>
<td>39.3</td>
<td>29.2</td>
<td>23.7</td>
<td>20.1</td>
<td>21.5</td>
</tr>
<tr>
<td>I have no appetite ($p = .032$)</td>
<td>59.8</td>
<td>53.4</td>
<td>24.2</td>
<td>25.1</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>I overeat ($p = .006$)</td>
<td>29.7</td>
<td>26.5</td>
<td>30.1</td>
<td>27.9</td>
<td>28.8</td>
<td>24.7</td>
</tr>
<tr>
<td>I have trouble focusing on work, projects, or activities ($p &lt; .001$)</td>
<td>17.4</td>
<td>11</td>
<td>42.5</td>
<td>26</td>
<td>28.8</td>
<td>31.1</td>
</tr>
<tr>
<td>Activity</td>
<td>Mean 1</td>
<td>Mean 2</td>
<td>Mean 3</td>
<td>Mean 4</td>
<td>Mean 5</td>
<td>Mean 6</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>Activities and work no longer interest me ($p &lt; .001$)</td>
<td>40.2</td>
<td>31.1</td>
<td>40.6</td>
<td>32</td>
<td>16.4</td>
<td>22.8</td>
</tr>
<tr>
<td>I am happy with where I am at in life ($p = .01$)</td>
<td>0.5</td>
<td>1.4</td>
<td>5.5</td>
<td>11.9</td>
<td>26.9</td>
<td>31.5</td>
</tr>
<tr>
<td>I feel agitated, angry, or irritable ($p &lt; .001$)</td>
<td>16.9</td>
<td>12.3</td>
<td>43.8</td>
<td>31.5</td>
<td>31.5</td>
<td>31.5</td>
</tr>
<tr>
<td>I think about hurting myself ($p &lt; .08$)</td>
<td>89.5</td>
<td>83.6</td>
<td>7.3</td>
<td>9.6</td>
<td>2.7</td>
<td>4.6</td>
</tr>
<tr>
<td>I consider suicide ($p &lt; .159$)</td>
<td>91.3</td>
<td>88.6</td>
<td>6.8</td>
<td>7.3</td>
<td>1.8</td>
<td>3.7</td>
</tr>
</tbody>
</table>
Figure 4. Negatively Phrased Emotions—Percentage of Respondents Indicating Occasionally, Often, or Daily
Tables 4 and 5 reveal a trend toward increased thoughts of self-harm and suicide during the pandemic. Although these differences did not reach the predefined level of statistical significance ($p = .08$ and $p = .159$, respectively), the differences are important and meaningful, given the severity of the outcome. During the pandemic, 13 more people considered self-harm and 6 more people considered suicide compared to before the pandemic (Figure 6).

Table 4. Number of Respondents Who Reported Thinking About Hurting Themselves

<table>
<thead>
<tr>
<th></th>
<th>Before the pandemic</th>
<th>During the pandemic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>196</td>
<td>183</td>
</tr>
<tr>
<td>Rarely</td>
<td>16</td>
<td>21</td>
</tr>
<tr>
<td>Occasionally</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Often</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>
Table 5. Number of Respondents Who Reported Considering Suicide

<table>
<thead>
<tr>
<th></th>
<th>Before the pandemic</th>
<th>During the pandemic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>200</td>
<td>194</td>
</tr>
<tr>
<td>Rarely</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>Occasionally</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Often</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Discussion

This study adds to the growing body of evidence illuminating the pandemic’s negative impact on mental health. Although these findings do not show significant changes in substance use, they do clearly demonstrate statistically significant increases in feelings of unhappiness, depression, loneliness, hopelessness, agitation, and irritability. They also indicate significantly more difficulty focusing on work,
projects, and activities; a lack of interest in work and activities; and general feelings of lethargy, lack of motivation, and lack of energy. These pre- to mid-pandemic changes were similar among both the student and the faculty/staff populations and have substantial implications for college campuses and communities. Additional mental health support is needed for students, faculty, and staff alike. Universities will need to be creative and purposeful in the ways they address, support, and improve mental health and well-being within their communities.

Although the overall increase in participants with thoughts of self-harm or suicide did not reach statistical significance, any increase in these extreme outcomes is significant. In this study, 13 people who had never had thoughts of self-harm prior to the pandemic had thoughts of self-harm during the pandemic. Prior to the pandemic, one respondent indicated that they often (1–4 times per week) had thoughts of self-harm, compared to five respondents indicating they had such thoughts often during the pandemic. Six people who had never had suicidal ideation pre-pandemic had thoughts of suicide during the pandemic. One respondent indicated that they thought about killing themselves often during the pandemic (zero prior), and eight experienced suicidal ideation occasionally (1–4 times per month) during the pandemic, compared to four participants indicating occasional thoughts of suicide pre-pandemic. If these data were extrapolated to the entire university population (undergraduate students, graduate students, faculty, and staff), 21 people in the campus community would be experiencing suicidal ideation often (1–4 times per week).

This study surprisingly showed relatively little substance use overall, with the exception of alcohol, and did not show significant differences in substance use before and during the pandemic. The baseline (pre-pandemic) data from this study did not match the data of the institution’s Spring 2020 American College Health Association National College Health Assessment III (ACHA-NCHA III), in which 23% of the student body admitted to recent (past 3 months) cannabis use, 21% admitted to recent nicotine use, and 73% admitted to recent alcohol use. The discrepancy in results of this survey and the ACHA-NCHA III data may be because this survey had a disproportionately large percentage of student responders who commute (and may live at home) and a small percentage of student responders who live in Greek housing. Additionally, the ACHA-NCHA III data were provided by 798 student respondents, compared to the data in this study provided by 261 respondents, with a mixture of students, staff, and faculty.

An important and encouraging finding of this study shows a decrease in the use and sharing of vaping devices. Initially, 45 of 50 participants who admitted to using vaping devices shared their devices, with 68% indicating they shared their devices often or almost always. When those participants were asked “Now/during Covid, when you use an electronic vaping device, how frequently do you share the device with others?” 36% responded “NA, I no longer use electronic
cigarettes/vaping devices” and 23% responded “rarely—less than 10% of the time I use a vaping device.” It is unclear if the decrease in use and sharing of vaping devices during COVID correlates with a decrease in nicotine and cannabis consumption or if it is reflective of a shift away from vaping/inhaling nicotine and cannabis to consuming them via other forms—i.e., Modern Oral Nicotine (MON) via pouches, gum, or lozenges, or cannabis via edibles.

In addition to the substantial personal and community health implications related to a large-scale decline in mental health, domino effects that are specific to college campuses may be experienced, especially related to both student and faculty/staff persistence and retention. Compared to before the pandemic, the rates of college student persistence (continuation at any institution) and retention (continuation at the institution at which they started) are declining. Mental well-being may be a key factor in persistence and retention. According to the National Student Clearinghouse Research Center (2021), only 74% of first-time freshmen who enrolled in college in Fall 2019 returned, signifying a “pandemic-related, unprecedented one year drop” in college student persistence. A recent survey jointly conducted by Fidelity Investments and the Chronicle of Higher Education examined the impact of COVID-19 on college/university faculty and found that 55% of faculty were seriously considering changing careers or retiring early (Tugend, 2021). The National Center for Education Statistics reported that during this period, college and university student enrollment declined by 651,774 students nationwide and that higher education institutions employed 151,627 fewer faculty and staff compared to Fall 2019 (Weissman, 2021). The decrease in student enrollment paired with the potential exodus of experienced faculty and staff could lead to myriad substantial changes in the traditional college experience.

Although the present study provides several valuable insights into how the pandemic has affected and continues to affect college campus environments, it does have limitations. All survey research has the potential for response bias, especially surveys that examine sensitive information, such as mental health, and potentially illegal activity, such as substance use. Given the discrepancy between recent institution-specific ACHA-NCHA III substance-use data and data obtained from this study, it is possible that some degree of response bias occurred. Additionally, the pandemic progressed at unpredictable rates and in unpredictable ways during the course of this research. Between the time the survey was created and the time it was distributed, a vaccine was authorized for emergency use and made available on campus, the mask mandate in the community (but not the university) was lifted, and the usual spring term ended. The survey was then deployed during summer term, which likely led to substantially lower participation and a smaller sample size than originally anticipated.
Conclusion

This study further illuminates the significant mental health decline in the collegiate community associated with the ongoing COVID-19 pandemic. During the pandemic, college students, faculty, and staff experienced statistically significant increases in feelings of unhappiness, depression, loneliness, hopelessness, agitation, and irritability, compared to before the pandemic. During the pandemic, members of the college community experienced difficulty focusing on work, projects, and activities; a lack of interest in work and activities; and general feelings of lethargy, lack of motivation, and lack of energy at significantly higher rates compared to before the pandemic (all P values <.01). This decline in mental health was also associated with an increase in thoughts of self-harm and suicide, especially among students.
Works Cited


Appendix A

COVID Effects on Habits and Mental Health Research

Start of Block: Intro

Q1 Welcome!
We are conducting this survey to better understand the effects COVID-19 has had on personal behavior and mental health. In this study, you will be presented with questions relating to your personal habits and your emotions/feelings. Your responses will be kept completely confidential. It should take you no longer than 5 minutes to complete.

Q2 I agree to participate in the research study. I understand the purpose and the nature of this study and I am participating voluntarily. I understand that I can withdraw from the study at any time, without any penalty or consequences. My responses will be confidential and no identifying information such as my name, email address, or IP address will be collected. By clicking "I agree," you are confirming:
— you have read the above information
— you are over 18 years old
— you are a Butler affiliate (student, faculty, staff)

  ○ I agree  (1)

  ○ I disagree  (2)

Skip To: End of Survey If I agree to participate in the research study. I understand the purpose and the nature of this study... = I disagree

End of Block: Intro

Start of Block: Demographics
Q3 Please specify your ethnicity.

- Caucasian (1)
- African American (2)
- Latino/Hispanic (3)
- Asian (4)
- Native American (5)
- Native Hawaiian or Pacific Islander (6)
- Other (7)
- Prefer not to say (8)

Q4 What gender do you identify as?

- Male (1)
- Female (2)
- Prefer to self describe as ____ (non-binary, gender-fluid, agender) (3)
- Prefer not to say (4)

Q5 What is your primary role at Butler?

- Student (1)
- Faculty (2)
- Staff (3)
Q6 What is your age?

- 18–20 (1)
- 21–23 (2)
- 24–26 (3)
- >26 (4)

Q7 What is your year in school?

- Freshman (1)
- Sophomore (2)
- Junior (3)
- Senior (4)
- 5th year or beyond (5)
Q8 Which best describes your current place of residence?

- On campus dorms (Irvington, Ross, Fairview, etc.) (1)
- On-campus Greek Housing (2)
- On-campus apartments (Apartment Village, University Terrace, South Campus, etc.) (3)
- Off campus (with parents/family) (4)
- Off campus (alone/with friends) (5)

Q9 What is your age?

- 20–29 (1)
- 30–39 (2)
- 40–49 (3)
- 50–59 (4)
- >60 (5)
Q10 What is the highest level of education you have achieved?

- High school diploma or equivalent (1)
- Associate’s degree (2)
- Bachelor’s degree (3)
- Master’s degree (4)
- Doctorate degree (5)
- Other (Please Specify) (6) ________________________________________________

End of Block: Demographics

Start of Block: Survey Questions

Q11
Personal Habits
To the best of your ability, please select the answer choice that best describes your behaviors before the pandemic began (around February 2020) compared to now (March/April 2021).
<table>
<thead>
<tr>
<th>Drug Type</th>
<th>Before Pandemic (Feb 2020)</th>
<th>New (May/June 2021)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicotine via vapes/e-cigarettes (JUUL, Blu, SMOK, etc.)</td>
<td>Never</td>
<td>Never</td>
</tr>
<tr>
<td>Nicotine via traditional cigarettes</td>
<td>Occasionally</td>
<td>Occasionally</td>
</tr>
<tr>
<td>Nicotine via pouches</td>
<td>Occasionally</td>
<td>Occasionally</td>
</tr>
<tr>
<td>Cannabis via edibles</td>
<td>Occasionally</td>
<td>Occasionally</td>
</tr>
<tr>
<td>Cannabis via vape/e-cigarette</td>
<td>Occasionally</td>
<td>Occasionally</td>
</tr>
<tr>
<td>Cannabis via traditional cigarette</td>
<td>Occasionally</td>
<td>Occasionally</td>
</tr>
<tr>
<td>Alcohol (beer, wine, liquor, etc.)</td>
<td>Occasionally</td>
<td>Occasionally</td>
</tr>
<tr>
<td>Prescription Stimulants not prescribed to you (Adderall, Ritalin, Vyvanse, etc.)</td>
<td>Never</td>
<td>Never</td>
</tr>
<tr>
<td>Hallucinogens (Ecstasy, MDMA, Molly, LSD, mushrooms, PCP, etc.)</td>
<td>Never</td>
<td>Never</td>
</tr>
<tr>
<td>Sedatives or Sleeping Pills (Valium, Ativan, Benzos, Xanax, Klonopin, Librium, Rohypnol, GHB, etc.) [Please report nonmedical use only.]</td>
<td>Never</td>
<td>Never</td>
</tr>
<tr>
<td>Prescription opioids (morphine, codeine, fentanyl, oxycodone [OxyContin, Percocet], hydrocodone [Vicodin], methadone, buprenorphine [Suboxone], etc.) [Please report nonmedical use only.]</td>
<td>Never</td>
<td>Never</td>
</tr>
<tr>
<td>Cocaine</td>
<td>Never</td>
<td>Never</td>
</tr>
</tbody>
</table>
Q12
If you have used electronic cigarettes/vaping devices, have you ever put a device in your mouth immediately after it was in someone else’s mouth?

- N/A: I have never used a vaping device/electronic cigarette
- No: I have used a vaping device/electronic cigarette, but have never put it in my mouth after it was in someone else’s mouth.
- Yes: I have shared a vaping device/electronic cigarette.

Q13
Prior to COVID, when you used an electronic cigarette/vaping device how frequently did you share the device with others (i.e., a single device was in more than one person’s mouth within a 60 min window)?

- Rarely (less than 10% of the times I used a vaping device)
- Occasionally (11 - 40% of the times I used a vaping device)
- Often (41 - 80% of the times I used a vaping device)
- Almost always (81 - 100% of the times I use a vaping device)

Q14
Now/during COVID, when you use an electronic cigarette/vaping device how frequently do you share the device with others (i.e., a single device in more than one person’s mouth within a 60 min window)?

- N/A: I no longer use electronic cigarettes/vaping devices.
- Rarely (less than 10% of the times I used a vaping device)
- Occasionally (11 - 40% of the times I used a vaping device)
- Often (41 - 80% of the times I used a vaping device)
- Almost always (81 - 100% of the times I use a vaping device)
Q15 Mental Health
To the best of your ability, please select the answer choice that best matches how you relate to the statements before the pandemic began (around February 2020) compared to now (March/April 2021).

<table>
<thead>
<tr>
<th>Q</th>
<th>Before Pandemic (Feb 2020)</th>
<th>Now (May/June 2021)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel sad, unhappy, or depressed.</td>
<td>Never: 0</td>
<td>0</td>
</tr>
<tr>
<td>I feel happy, excited, or hopeful.</td>
<td>Never: 0</td>
<td>0</td>
</tr>
<tr>
<td>I feel lethargic, unmotivated, or have no energy.</td>
<td>Never: 0</td>
<td>0</td>
</tr>
<tr>
<td>I feel hopeless about the future.</td>
<td>Never: 0</td>
<td>0</td>
</tr>
<tr>
<td>I feel lonely, isolated, or alone.</td>
<td>Never: 0</td>
<td>0</td>
</tr>
<tr>
<td>I have trouble sleeping.</td>
<td>Never: 0</td>
<td>0</td>
</tr>
<tr>
<td>I sleep too much.</td>
<td>Never: 0</td>
<td>0</td>
</tr>
<tr>
<td>I have no appetite.</td>
<td>Never: 0</td>
<td>0</td>
</tr>
<tr>
<td>I overeat.</td>
<td>Never: 0</td>
<td>0</td>
</tr>
<tr>
<td>I have trouble focusing on work, projects, or activities.</td>
<td>Never: 0</td>
<td>0</td>
</tr>
<tr>
<td>I take time for self care.</td>
<td>Never: 0</td>
<td>0</td>
</tr>
<tr>
<td>Activities and work no longer interest me.</td>
<td>Never: 0</td>
<td>0</td>
</tr>
<tr>
<td>I am happy with where I am at in life.</td>
<td>Never: 0</td>
<td>0</td>
</tr>
<tr>
<td>I feel agitated, angry, or irritable.</td>
<td>Never: 0</td>
<td>0</td>
</tr>
<tr>
<td>I think about hurting myself.</td>
<td>Never: 0</td>
<td>0</td>
</tr>
<tr>
<td>I consider suicide.</td>
<td>Never: 0</td>
<td>0</td>
</tr>
</tbody>
</table>
THE EFFECTS OF COVID-19–INDUCED STRESS, ANXIETY, AND DEPRESSION ON THE EATING BEHAVIOR OF COLLEGE WOMEN

NATALIE SIMPSON, BUTLER UNIVERSITY
MENTOR: TARA LINEWEAVER

Abstract

Increases in the prevalence of disordered eating patterns have been linked to distress and poor mental well-being. Additionally, COVID-19 has been linked to both depressive and anxious symptomatology, along with increased feelings of distress (Fitzpatrick et al., 2020). Because disordered eating is particularly prevalent among college-age women, this study sought to determine how depression, anxiety, and stress affect eating behaviors of college women in the context of the COVID-19 pandemic. One hundred seventy-nine women, aged 18–24, at Butler University gave informed consent before completing a questionnaire pertaining to their demographics, their stress surrounding COVID, and their weight change since March 2020. The next set of questionnaires asked about their anxiety, stress, and depression, as well as their eating behaviors at the time they were completing the survey (September–December 2021) and during the COVID-19 lockdown period (March–August 2020). Depression, anxiety, and stress were significantly higher during COVID-19 than during the fall of 2021, but college-age women reported more restraint in their eating at the time of the study. No overall differences emerged in uncontrolled or emotional eating across the two time points. In correlational analyses, depression and anxiety during COVID-19 correlated with both uncontrolled and emotional eating (depression also correlated with cognitive restraint). Although change in self-reported stress levels across time did not predict changes in disordered eating, improvements in depression and anxiety from Spring 2020 to Fall 2021 correlated with less emotional eating across time. Together, these findings reinforce past research showing that college-age women are a particularly vulnerable population during times of crisis.

Disordered eating behavior associated with stress is a topic that has been given significant attention in the current literature. Disordered eating (DE) patterns are a less extreme form of eating disorder and can include eating issues such as uncontrolled eating, eating in response to strong emotions, and attempting to highly restrict the type and amount of foods eaten (Lee & Vaillancourt, 2019, p. 821). Disordered eating is influenced by many factors. One study that looked at risk factors for disordered eating among female youth concluded that DE risk was associated
with internalizing symptoms of anxiety, depression, and social stressors (Russon et al., 2019). Similarly, a longitudinal study of 10-year-old children found a positive correlation between anxiety disorders in adolescence and a range of DE symptoms at age 16 (Schaumberg et al., 2019). Additionally, both anxiety and depressive disorders during early adolescence correlated with eating problems in early adulthood (Johnson et al., 2002). Finally, a study in which 466 individuals aged 18 to 65 kept daily diaries of their eating styles and daily hassles (i.e., sources of stress and annoyance that can occur from day to day) showed that daily hassles also led to an increase in unhealthy eating behavior (O’Connor et al., 2008).

Disordered eating is particularly prevalent among college-age women. In a study that included 643 undergraduate women, 82% reported one or more dieting behaviors at least daily, and 33% reported more serious forms of weight control (i.e., use of laxatives or vomiting) at least once a month, while 38% reported problems with binging (Mintz & Betz, 1988). More recently, 445 undergraduate students at a large university completed the Eating Attitudes Test and the Dutch Eating Behavior Questionnaire. This study revealed that college-age women exhibited restrained eating and emotional eating but also that women were significantly more likely to be at risk for eating disorders than were their male counterparts (Perryman et al., 2018). These studies show the importance and relevance of understanding the link between disordered eating patterns and stressors that negatively influence the mental health of college-age women.

A recent factor that has increased stress for all college students is the COVID-19 pandemic. COVID-19 has had a monumental effect on the world and especially on the mental health of individuals. Fear of COVID-19 has been linked to both depressive and anxious symptomatology, along with increased feelings of distress (Fitzpatrick et al., 2020). Together, the associated climate of illness risk, job loss, financial insecurity, death of loved ones, racial and economic inequities, and an overwhelmed health care system has resulted in significant increases in stress for many U.S. citizens (Marmarosh et al., 2020).

The increased stress associated with COVID-19 has resulted in more prevalent COVID-19 depression and depressive symptoms among adults aged 18 and over (Fitzpatrick et al., 2020). Specifically, the experience of disconnection and isolation during and after quarantine has been shown to lead to depression, anxiety, and stress (Marmarosh et al., 2020). An online survey evaluated changes in mental well-being and depressive symptoms before and during the period of home confinement and found that individuals reported decreased mental well-being during confinement, as well as significant increases in depressive symptoms (Ammar et al., 2020).

Beyond depression, feelings of distress and anxiety also significantly increased during the COVID-19 pandemic. A study from an Internet panel of U.S.
adults showed that each additional day of the pandemic resulted in an 11% increase in the odds of having more distress (Holingue et al., 2020). Anxiety also increased. Another study reported that the percentage of respondents who indicated that their anxiety was either high or extreme quadrupled from 5% to 20% following the onset of COVID-19 (Dozois, 2020). It is particularly important to look at COVID-19–related distress in young adults. A study examining psychological distress after lockdown using the Kessler 6 Psychological Distress Scale found that 13.6% of adults reported serious distress, compared to 3.9% in 2018. Symptoms of distress were highest in young adults aged 18–29 years old (McGinty et al., 2020). This points to the importance of understanding responses to COVID-19 in this age group in particular.

Building on this past literature, the current study sought to determine how depression, anxiety, and stress affected eating behaviors of college women in the context of the COVID-19 pandemic. Because COVID-19 increased mental health issues in college students (Ammar et al., 2020; Dozois, 2020; Fitzpatrick et al., 2020; Holingue et al., 2020; McGinty et al., 2020) and because increased depression, anxiety, and stress are associated with disordered eating behavior (Johnson et al., 2002; Lee & Vaillancourt, 2019; Meyer and Leppma, 2019; Perryman et al., 2018), particularly among college-age women, I hypothesized that the stress, depression, and anxiety triggered by COVID-19 would correlate with disordered eating among women. Additionally, I hypothesized that improvements in emotional state after COVID-19 would relate to improvements in eating behavior in women after the pandemic.

Method

Participants

Participants included 179 undergraduate women ages 18–24 at Butler University ($M = 19.90$, $SD = 1.24$) from a variety of backgrounds. Of the sample of women, 97.8% identified as female, 1.7% identified as nonbinary, and 0.6% preferred not to say. The sample included students in all years of college, from their first year to their fourth year ($M = 2.63$, $SD = 1.13$). Additionally, participants came from a variety of racial backgrounds: Black or African American (6.1%), White (87.7%), Asian (8.9%), American Indian or Alaska Native (0.6%), and Hispanic (0.6%). All participants provided informed consent prior to completion of the survey. Because all participants were women or nonbinary, the analyses do not include gender as a factor.

Materials

Each participant completed a 30-question Qualtrics online survey between September and December 2021. It consisted of a series of questionnaires related to
eating behavior, depression, anxiety, and stress both in the past (March–August 2020) and at the time they completed the survey. I largely adapted existing questionnaires to read in both past and present tense and to fit the online format of the Qualtrics system.

**Demographic Questionnaire**

A demographic questionnaire created for the purposes of this study asked participants their age, race, ethnicity, and year in school. Participants also indicated their level of concern about COVID-19 on a single item by responding on a Likert-type scale that ranged from 1 (Not concerned) to 3 (Very concerned) as well as whether they had lost weight or gained weight or their weight had remained stable across the past year.

**The Three-Factor Eating Questionnaire–Revised 18 Item (Karlson, 2000)**

This is an 18-item scale comprising items assessing cognitive restraint, uncontrolled eating, and emotional eating. Some examples of items include “Sometimes when I’m eating, I can’t stop” (uncontrolled eating), “I do not eat some foods because they make me fat” (cognitive restraint), and “When I feel blue, I overeat” (emotional eating). Participants rated each item on a scale ranging from 4 (True) to 1 (Definitely false) or 4 (Almost always) to 1 (Only at mealtimes).

**Center for Epidemiological Studies-Depression Questionnaire (CES-D; Radloff, 1977)**

The CES-D is a 20-item questionnaire that asks participants to rate how often over the past week they have experienced depressive symptoms, including feelings of loneliness, restless sleep, and loss of appetite. Response options range from 0 (Rarely or none of the time) to 3 (Almost all the time). Scores ranged from 0 to 60, with higher scores indicating greater depressive symptoms.

**State-Trait Anxiety Inventory for Adults (Spielberger, 1983)**

This 20-item scale describes features of trait anxiety (e.g., “I feel nervous”). Participants rated how much each statement described how they generally felt. All items were answered on a scale from 1 (Almost never) to 4 (Almost always). Higher scores indicated greater trait anxiety.

**Perceived Stress Scale (Cohen et al., 1983)**

This instrument includes 10 items that focus on stress and coping over the preceding month (e.g., “How often have you felt that you couldn’t control the
important things in your life?”). Responses were made on a 5-point Likert scale, from 0 (Never) to 5 (Very often), and the items were then summed to give a total perceived stress score with a range from 0 (Least stressed) to 40 (Most stressed).

Procedure

This study was conducted through an online survey using Qualtrics, with participants recruited primarily through Sona, an online participant-management system. Additional participants were invited to be part of the study through the Honors listserv, the Alpha Phi listserv, and personal connections. After giving informed consent, participants first completed a questionnaire pertaining to their basic demographic characteristics, their stress surrounding COVID, and their weight change. The next set of questionnaires asked about eating behaviors, depression, anxiety, and stress at the time they completed the survey (September–December 2021). Finally, participants answered the same set of four questionnaires rating their anxiety, stress, depression, and eating behaviors during the lockdown period of the COVID-19 pandemic (March–August 2020). The survey took about 15–20 minutes, and participants were thanked for their time once they completed it. Students enrolled in psychology courses that offered extra credit for research participation received extra credit in return for their time. Others volunteered to participate in the study without compensation.

Results

Change in Emotional States

Before addressing the primary hypotheses of the study, I examined changes in the self-reported emotional states of participants between the time of the COVID-19 pandemic lockdown and the time of the study (Figure 1). Significant differences emerged between past self-reported emotional states and current self-reported emotional states. Self-reported depression \((F(1, 178) = 117.01, p < .001, \eta_p^2 = 0.397)\) and self-reported anxiety \((F(1, 178) = 91.997, p < .001, \eta_p^2 = 0.341)\) were significantly higher in the past than at the time of the study. The change in self-reported stress between time periods was more subtle but still reached statistical significance, \(F(1, 178) = 10.521, p = .001, \eta_p^2 = 0.056.\)
Figure 1. Differences in Self-Reported Emotional States (Depression, Anxiety, and Stress)

*Note.* All differences were statistically significant.

** $p < .01$, *** $p < .001$

**Change in Eating Behaviors**

To examine whether there was also a change in self-reported eating behaviors between March–August 2020 and September–December 2021, I compared participants’ self-reported disordered eating patterns across time (Figure 2). The change did not reach significance for either uncontrolled eating ($F(1, 178) = 2.420, p = .122, \eta_p^2 = 0.013$) or emotional eating behavior, $F(1, 178) = 3.140, p = .078, \eta_p^2 = 0.017$. In contrast, participants engaged in significantly more cognitive restraint in their eating at the time of the study than during the COVID-19 lockdown, $F(1, 178) = 13.910, p < .001, \eta_p^2 = 0.072$. 
Figure 2. Differences in Self-Reported Eating Behaviors (Uncontrolled Eating, Cognitive Restraint, and Emotional Eating)

*Note.* The differences in uncontrolled eating and emotional eating were not statistically significant, but the difference in cognitive restraint was statistically significant.

*** $p < .001$

Relationships Between Eating Behaviors and Emotional States

To address both primary hypotheses, I ran correlation analyses. First, I calculated correlations between emotional states during the COVID-19 lockdown and eating behaviors at that time (Table 1). As participants reported more past depression, they also reported significantly more uncontrolled eating, cognitive restraint while eating, and emotional eating (all $p \leq .003$). As participants reported increased anxiety in the past, they also reported significantly more uncontrolled eating and emotional eating (both $p \leq 0.034$), but the correlation with cognitive restraint did not reach significance. In addition to these relationships between emotional states and eating behaviors, both past uncontrolled eating and past emotional eating were significantly correlated with a weight change from March 2020 to the time of the study. Neither past stress nor concern about COVID-19 shared significant relationships with eating behaviors during the pandemic.
Table 1. Correlations Between Emotional States and Disordered Eating Behaviors During the COVID-19 Lockdown

<table>
<thead>
<tr>
<th>Past Eating Behaviors</th>
<th>Uncontrolled Eating</th>
<th>Cognitive Restraint</th>
<th>Emotional Eating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past Depression</td>
<td>0.217**</td>
<td>0.233**</td>
<td>0.330***</td>
</tr>
<tr>
<td>Past Anxiety</td>
<td>0.159*</td>
<td>0.100</td>
<td>0.293***</td>
</tr>
<tr>
<td>Past Stress</td>
<td>0.067</td>
<td>0.108</td>
<td>0.088</td>
</tr>
<tr>
<td>Concern About COVID-19</td>
<td>0.024</td>
<td>0.018</td>
<td>0.101</td>
</tr>
<tr>
<td>Weight Change</td>
<td>0.237**</td>
<td>0.053</td>
<td>0.279***</td>
</tr>
</tbody>
</table>

*p < .05, ** p < .01, *** p < .001

I next examined the relationships between change in emotional states across time and changes in eating behavior (Table 2). I found no significant correlation between increases in stress and change in any of the three eating behaviors. An improvement in both depression and anxiety correlated with less emotional eating across time (both *p* ≤ .032) but not with changes in uncontrolled eating or cognitive restraint.

Table 2. Correlations Between Changes in Emotional States and Changes in Disordered Eating Behaviors Across Time

<table>
<thead>
<tr>
<th>Change in Eating Behaviors</th>
<th>Uncontrolled Eating</th>
<th>Cognitive Restraint</th>
<th>Emotional Eating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in Depression</td>
<td>0.050</td>
<td>0.069</td>
<td>0.214**</td>
</tr>
<tr>
<td>Change in Anxiety</td>
<td>0.049</td>
<td>0.095</td>
<td>0.160*</td>
</tr>
<tr>
<td>Change in Stress</td>
<td>-0.050</td>
<td>0.034</td>
<td>0.017</td>
</tr>
</tbody>
</table>

*p < .05, ** p < .01
Discussion

This study sought to determine how depression, anxiety, and stress affected eating behaviors of college women in the context of the COVID-19 pandemic. My two hypotheses were that the stress, depression, and anxiety triggered by COVID-19 would correlate with disordered eating among college-age women and that improvements in the emotional state after the COVID-19 lockdown would relate to improvements in eating behavior in women across time. I found substantial support for my first hypothesis and more limited support for my second hypothesis.

Not surprisingly, the high levels of depression, anxiety, and stress that participants in this study reported experiencing during the pandemic replicate the findings of several past studies. Specifically, emotional states were worse during the COVID-19 original lockdown in March–August 2020 compared to 18 months later. This finding is similar to that of Dozois (2020), who reported that the percentage of respondents who endured high to extremely high anxiety quadrupled and the percentage of respondents who experienced high depression doubled in April 2020 (at the start of COVID-19) relative to prior to the pandemic. McGinty et al. (2020) similarly found that in April 2020, the rates of distress were particularly high in young adults ages 18–29. These findings make sense, as COVID-19 introduced new stressors into daily life, including health worries, loneliness, and isolation. All those factors are bound to decrease mental health wellness. Saltzman et al. (2020) found that social support was a coping mechanism for COVID-19 and, thus, a reduction in the isolation as the pandemic evolved should correspond to decreased loneliness and mental health problems across time. Indeed, my research expanded on past studies and documented improved emotional states of college women 18 months after the lockdown.

In the examination of eating behaviors, uncontrolled and emotional eating did not significantly change across time points. Inconsistent with my hypothesis, cognitive restraint was higher at the time of the study than during the COVID-19 lockdown. Bellisle and Dalix (2001) found that women’s cognitive restraint decreases in the presence of distractions. It is possible that the many cognitive and emotional distractions associated with COVID-19 decreased women’s cognitive restraint while eating. When the women returned to campus and readjusted to collegiate life, distractions may have been more limited, allowing them the resources to restrain their eating once again.

To build on past studies, I also looked at how emotional states affected eating behavior in college women in the context of the COVID-19 pandemic. In support of my first hypothesis, study results showed that higher levels of depression and anxiety were associated with more uncontrolled and emotional eating and that higher levels of depression were associated with more cognitive restraint. My findings were consistent with those of O’Connor et al. (2008), who found that daily hassles, such as
stressful events, increased participants’ emotional eating and unhealthy eating behavior in general. For my second hypothesis, improvements in depression and anxiety from Spring 2020 to Fall 2021 correlated with less emotional eating across time. These findings are consistent with those of past studies that documented heightened risk for disordered eating in individuals with anxiety, depression, and a history of trauma (Russon et al. 2019). With anxiety and depression having decreased since the pandemic, it would then also make sense for disordered eating to decrease as well.

Limitations

Although the findings of this study largely supported my hypotheses, the results should be interpreted in the context of its limitations. First, the study included a small pool of women. Although representative of the university where the study was conducted, the sample comprised mainly White upper-middle-class women. Thus, future research should be done to determine whether the current results generalize to a broader, more heterogeneous population. Additionally, although there was a question about gender identity on the survey, not enough participants identified as nonbinary for analysis of differences between these groups of women. Future studies could target women of different gender identities to determine the role of specific identities in the eating behavior of women during times of intense crisis. Second, the survey was lengthy. Some participants may have become bored or tired and may not have answered the questions attentively and carefully throughout the entire survey. I did not include catch trials or other ways to evaluate whether social desirability or other expectation biases influenced participants’ responses. Shorter, more-focused surveys addressing similar research questions in the future may increase researchers’ confidence in the accuracy of participants’ responses. Third, the survey asked participants to look back and reflect on how they felt during the original March–August 2020 portion of the pandemic. Because answers may change across time and participants may misremember their feelings and behaviors from the past, the current findings must thus be interpreted with caution.

Conclusions

Taken together, these results suggest different eating patterns of college women during times of high stress than during times of normal stress. High stress resulted in more uncontrolled eating and emotional eating, whereas more typical stress corresponded with greater cognitive restraint. Together, these findings reinforce past research by showing that college-age women are a particularly vulnerable population for disordered eating both during times of crisis and during their normal lives.
References


AGENCY ACTUALIZATION AND ARTISTIC AWAKENING: THE POETIC RHETORIC OF FREEDOM SCHOOL STUDENTS

EDEN DOYLE, BAYLOR UNIVERSITY
MENTOR: CORETTA PITTMAN

Abstract

This paper analyzes the rhetoric of poems written by Freedom School students in Mississippi amidst the Civil Rights Movement of the 1960s. Much of the rhetoric documented, explored, and valued from this era is of adults with the power and means to have their voices heard and respected; however, this paper argues the value of these students’ unique Black experience as one that is underexplored and greatly compelling. The social and political context surrounding the inception of Freedom Schools is discussed, as well as the need for further research and scholarship on the intellectual activity and rhetorical artifacts of the students of these schools.

Introduction

Although the sentiment “history is told by the victors” often rings true, it is perhaps more accurate to state that history is told by those with the social, political, and economic power and means to write it and manipulate it, effectively drowning out any conflicting accounts. When the Civil Rights Movement of the 1960s is viewed, it is evident that loud White voices of both then and now attempt to divert the focus of the movement in such a way that Black voices, history, culture, and figures are often lost or forgotten. Some seemingly forgotten voices are those of Black students in Mississippi during the summer of 1964. These students were young, but through the teachings they received at Freedom Schools and the poetry they wrote over the course of that sweltering summer, they became agents of social change and storytellers of their unique Black experience. While much of the history and scholarship regarding the Civil Rights Movement and its respective rhetoric focuses on the works of adult activists, this essay is chiefly concerned with the rhetoric of children and adolescents who grew up amidst this movement and argues that their poetical work and rhetorical goals offer a novel lens through which to view the Civil Rights Movement and its effects—specifically the artistic and agentive effects on the students of Freedom Schools. Note that although in recent decades there has been an increase in the scholarship on Freedom Schools and youth involvement in the Civil
Rights Movement, this paper suggests substantial scholarly interest in the intellectual activity that emerged from Freedom Schools is still lacking, and it seeks to remedy that through the discussion and analysis of the poetry of Freedom School students.

The Need for Freedom Schools

In order to have an informed and meaningful conversation regarding Freedom School poetry, understanding the need for Freedom Schools in the state of Mississippi is vital. Mississippi was an “unflinchingly segregated” state, and White Mississippians of the 20th century had opinions on Black education. In the Greenwood Commonwealth, a newspaper of the Mississippi Delta, it was stated, “Their education only spoils a good field hand and makes a shyster lawyer or a fourth-rate teacher. It is money thrown away” (Cobb 107). Although this rhetoric is abhorrent and dismissive of any and all potential of Black individuals, this, of course, was hardly the worst of what would come.

The Student Nonviolent Coordinating Committee (SNCC) helped to organize what would soon be called Freedom Summer, which originally sought to make progress for mass voter rights and antidiscrimination efforts but was also a perfect setting in which to incorporate Freedom Schools (Etienne 450). Unfortunately, in response to the Freedom Summer activities of the SNCC in Mississippi, between June and September 1964… local police and segregationists murdered three freedom workers, violently assaulted over eighty activists, shot at activists or their homes over thirty-five times, arrested over a thousand workers, burned thirty-five churches, and firebombed thirty-one homes and freedom houses that housed the summer volunteers. (Hale 330)

Never shocking, though consistently disappointing, it was clear that Black individuals in the state of Mississippi were perceived as unequal, less valuable, and economically disadvantageous, and the state’s lack of investment in their education was a clear indication of these beliefs. In 1964, the state of Mississippi spent an insulting 76 cents per capita on Black students while allocating $30.89 per capita to their white counterparts (Hale 107). Fund allocation with such disparity served to keep the Black community undereducated—an undereducation which was both method and excuse for the denial of their political rights (Etienne 456). Even a year after the Freedom Summer, Black students and children were still so underserved in Mississippi that the Presbyterian Church of the United States of America intervened alongside the Office of Economic Opportunity on the Head Start program, which sought to “prepare disadvantaged children for first grade” (Sanders). When Black students were able to attend school, however, they were often “taught to be subservient agricultural labors and nothing else”; school principals would even “rent out” Black students to work the cotton fields (Etienne 455). Students’ unwilling tie to
the plight of their ancestors hindered both social and political progress while reinstating a form of slavery (Etienne 455). To combat the effects of the Jim Crow laws, widespread segregationist beliefs, and violent hate crimes, Freedom Schools emerged to educate Black youth but also, most importantly, to “expos[e] them to their own importance in the fight for social change” (Etienne 451).

In order to reveal to students their own worth, power, and importance in society and in bettering sociopolitical issues, an enumerated statement of these schools’ purpose and goals was essential. The informational memorandum written by movement veterans stated,

[T]he purpose of the Freedom School is to help [students] begin to question… [and] to provide an educational experience for students which will make it possible for them to challenge the myths of our society, to perceive more clearly its realities and to find alternatives and, ultimately, new directions for action. (Hale 331)

This new opportunity to challenge, question, and discuss amongst peers and seasoned movement veterans created the backdrop for and fostered the ideas of Freedom School poets and activists. Certain subjects taught in Freedom Schools likely also played an integral creative role in the inspiration and composition of Freedom School poetry: “Freedom School students also studied African American history and literature, which were not part of the regular public school curriculum.… The Freedom School teachers taught and assigned authors who articulated what it meant to be African American in the United States” (Hale 332). The curriculum of Freedom Schools (called the citizenship curriculum) comprised seven units of study, including “the analysis of the ‘power structure’ in American society and its impact on African Americans and poor whites; a critique of ‘materialism’ in a unit devoted to ‘material things versus soul things’… [and] other issues were addressed, including leadership development, events in the contemporary freedom struggle, and extracurricular activities” (Hale 332).

While the intention of Freedom Schools was to educate and prepare Black youth to be active participants in American democracy, the frequent discussion of their own place in the difficult conversations of race and inequality in the United States allowed students the opportunity to become cognizant of the power structures at play that actively sought to hinder them from political strength and greatness. This cognizance, and subsequent righteous frustration, lit the proverbial flame for Freedom School students, especially those who authored poems. Though many schools had differing daily schedules—often due to rural areas needing night schools for laboring students—all Freedom Schools included seminars on nonviolence, which “would often [lead] to the activities the students would engage in during the evenings and weekends around the right to vote” (Etienne 457). Education was the means by which the Black community would gain necessary political power; however, it was
vital that Freedom Schools not simply teach core curriculum. For sustained change to occur, these adolescent students’ involvement in their own political livelihoods was paramount.

Freedom School Poetry

An avenue through which some students of Freedom Schools began to exercise this involvement in the political sphere was through rhetoric—keenly, poetry. The perspective of young teens coming of age amidst the progressive waves made by the Black Power Movement and the Civil Rights Movement tells the story of children acknowledging their place in White-dominated American society but realizing their agency as a result of the education they received at Freedom Schools. From that education, these students authored poems that expressed an array of emotions and perspectives regarding the current state of Black treatment in the United States: hope for their rights to be waiting at the end of a tumultuous tunnel; (righteous) anger because of the abhorrent treatment they and their friends, family, and ancestors received at the hands of White people; and defeat at of their belief that little would come from those fighting on the front lines for Black equality. In her article “Intratexturealities: The Poetics of the Freedom Schools,” Vonzell Agosto, explains,

These poems, constructed with and against relations of power, reflect the ambiguous, porous, and elusive borders between curriculum and lived experience, text and context, and words and meanings…. Their creation, usage, and layered meanings speak to present concerns about anti-oppressive and social justice education and youth activism.” (170)

What follows is the rhetorical analysis of three poems written by students of Freedom Schools, drawing on the ideas presented in Agosto’s work about Freedom School poetry.

“Once I wanted to fill the earth with laughter”

In a poem titled “Once I wanted to fill the earth with laughter,” the author, Lynda (no listed age or last name), contrasts her pure intentions to make the world a better place with her reality as a young Black girl in 1960s Mississippi. Through her careful and purposeful word choice and attention to tone, this brief two-stanza poem conveys Lynda’s defeat by the suffocating nature of the Jim Crow laws and the segregation plaguing the country.

The first stanza paints the picture of a world “ease[d]… of all its grief and pain,” made into a “marvelous place,” akin to the peace and calm of “the woods after a summer’s rain” as the result of the change and peace she hopes to bring (SNCC 31, lines 2–4). Lynda creates an ideal reality that is peaceful and safe—all the things her
lived reality is not. In many ways, the first stanza allows her innocence to live on, transcendent of time, encapsulating in ink on a page her idyllic view of what could be. In this way, her experience, thoughts, feelings, and aspirations are saved from the consuming nature of time and, in their finality, cannot be transgressed or altered by “know better” adults.

Soon after this picturesque world comes into view, however, Lynda shifts the tone of the poem into one dejected with the real world—a world that “will heed neither [her] help or desires” and that “silently sits and turns to [her] deaf ears” simply because “it has seen the color of [her] skin” (SNCC 31, lines 7, 9–10). Perhaps the most moving section in this piece is the lines in which the tonal shift occurs; Lynda states, “When I had finished; nothing it would lack / I had not learned, as yet, my skin was black” (lines 5–6). Lynda, through this tonal shift, takes the hand of the reader and walks them through her memories and experience—walks them through what it felt like to realize that the world you love does not love you.

While on the surface, the poem may appear to lack a call to action, Lynda places one covertly. Because she contrasts an ideal world with reality, the audience is presented with what could be if they took heed of her “help or desires” (SNCC 31, line 7); thus, they learn that to alter the country’s course, it is vital to listen to the wants, desires, needs, help, and, ultimately, voices of Black individuals, regardless of age. In Lynda’s poem, not only is it clear that she gained a level of racial consciousness, but her account reflects how “children and teenagers understood and engaged adult concepts and took their civic responsibilities seriously” (Berghel 435).

“Mine”

Similar to Lynda’s poem, Alice Jackson’s (age 17) poem, “Mine,” also describes an ideal world through her detailing various activities to which she wants access as a young Black girl in the South. As the poem progresses, Jackson asks for things that increase in extravagance but that reflect the reasonable wants of a teenager (e.g., “I want to live in the best hotel for a week”; SNCC 43, line 5). Her wants in this poem are not extreme in any sense, however; she wishes to “walk,” “sit,” “be served,” “live,” “swim,” and “go to...university” unmolested—all of which are basic requests of a normal life to her White counterparts, but because she understands her place in the social strata of segregated 1965 Mississippi, she feels she must enumerate and negotiate. An interesting aspect regarding the structure of this poem is Jackson’s description and presentation of the thing(s) she wants, followed by her commentary on what social repercussions would ensue if she were to participate in any of them in heavily segregated Mississippi. For example, Jackson longs for the ability to “walk the streets of a town./ Turn into any restaurant and sit down,” but to “be served the food of [her] choice, / and not be met by hostile voice” (lines 1–4). Incorporating the consequences of these actions not only creates discussion of the
systems in place that keep her from them but also pivots her into a position of negotiating power. Over the course of the poem, this power reaches its peak in the last four lines:

I want the things my ancestors thought we’d never have
They are mine as a Negro, an American;
I shall have them or be dead. (lines 9–12)

Jackson puts this conversation into perspective through the mention of her ancestors, who never had the opportunities she does have and could have. Her ancestors’ lack of access to activities of their own volition—autonomy—fuels her righteous fire and the sentiments of her poem. Jackson makes a promise to both the audience and herself that she will attempt to fulfill her wants or die trying, but most importantly, she refuses to be a bystander of social progress. Notably in this excerpt, she equates “Negro” and “American” in line 11, a clear rhetorical choice to state that her status as a Black American does not (and should not) negate or diminish her American status. Her equation of these two socially constructed ideas is even more significant because their comparison would surely cause outrage to a White audience. In pointing out rights to which she, as well as her ancestors, does not have access, Jackson “serve[s] as a record[er] of history by documenting events and ideas (through poetry)” (Agosto 177).

“The House of Liberty”

A poem that most clearly documents history through the lens of Black youth is Joyce Brown’s (age 16) poem, “The House of Liberty.” Brown attended the McComb Freedom School, and in this poem, she recounts the event of White supremacists’ bombing of the school prior to its opening (Hilberg 293). Brown captures the “political import” of the bombing in her four-stanza poem, which was “written for the opening of the McComb Freedom School on the grass before the bombed-out private home at which the school had to be held” (Hilberg 293; SNCC 14). Brown, in the first stanza, states her motivation for the poem, her education, and her want for freedom in every sense as “not for fortune, nor for fame” (SNCC 14, line 1). As the poem continues, she subtly addresses the bombing and the White supremacists behind it:

I shan’t let fear, my monstrous foe,
Conquer my soul with threat and woe,
Here I have come and here I shall stay,
And no amount of fear my determination can sway. (lines 5–8)
Brown states that “fear” is her enemy; however, the question then is, who or what is she afraid of? Arguably, the fear is of those who would bomb the very school she hoped to attend, those who remind her day in and day out that she is something else . . . something inherently other. Brown further addresses the concept of othering in the second stanza, claiming, “I asked for your churches, and you turned me down” (line 9). Churches (though particularly White, Evangelical Christian churches), places that ought to be pinnacles of care, charity, and grace, used their social power to keep themselves and their beneficiaries in control, and to Whites, letting Brown gain access would subvert that power. This does not deter Brown, however; the remainder of the poem calls out the behavior of scared and violent Whites who think that “because [they’ve] turned [her] away / [They’ve] protected [themselves] for another day” and that because “They’ve turned [her] down to humor [their enemy], / Ah! [their] fate is sad and grim” (lines 13–14, 19–20).

As the poem continues, Brown uses her rhetorical skill to craft power for herself—a power that she wields over a hateful White audience. This power is mostly clearly seen in the several instances in which she can predict the future, in a sense: “But tomorrow must surely come,” “Your fate is sad and grim,” “For even tho’ your help I ask, / Even without it, I’ll finish my task” (lines 15, 20–22). Knowing the fate of another offers up a new dimension to the power dynamic between Brown and the racist Whites of McComb, Mississippi, and most notably, she tells them that she does not need their help, since she can complete her work without it. In essence, the effect that the Whites believe they have is hardly a hurdle to Brown, given that she knows that, without a doubt, she will get what she intends to: freedom from the fear and hate that the White majority has so long instilled. It is evident from Brown’s work that she understands the harsh reality of the world in which she lives. She is unwelcomed in White churches; her school was bombed by White supremacists; she and her classmates must attend school outside for the time being; and yet, creating art through poetry, and addressing the social injustices plaguing the Black community, in particular a hate crime that has directly affected her, set the tone for later poetry from the McComb Freedom School.

Agency and Artistic Expression

It is clear from the poetry analyzed that Freedom Schools provided the Black youth of Mississippi the means to explore the arts as well as to “respon[d] to the culture and politics of the freedom struggle” (Berghel 435). The classrooms of Freedom Schools opened up new worlds for Black students to debate and discuss the social and political state of the United States with veteran Civil Rights Movement classroom leaders and their peers while exploring the intersectionality of race and Black history in the issues discussed. Through poetry and other artistic expressions, students could “test out” their newfound political agency, find their voices, and use rhetoric to fight their battles. Although poetry was not strictly part of the curriculum,
the students’ creation of it was their artistic revision of the curriculum; through authoring these poems, students addressed their own academic and artistic needs, reflected on lived experiences, documented history, and ultimately sought to understand their place as young Black children and teens in 1960s U.S. Southern society.

Conclusion

From the research conducted to complete this essay, it is evident that a lack of literature within the niche of the analysis, reflection, and valuation of Freedom School intellectual activity, chiefly poetry, within Civil Rights rhetoric needs to be remedied. These students grew up in one of the most turbulent eras of the past century in the United States, and their story and writing are vital pieces to Black history, rhetoric, and art. In research, there were few discussions of the lives that these students would go on to lead, a part of the story that in future literature should be addressed in order to understand the far-reaching and time-transcendent effects of Freedom Schools. The Freedom Schools provided the opportunity for Black students in Mississippi to become aware of their political selves, and in doing so, they fostered young Civil Rights activists who were passionate and dedicated to social progression. The poetry that would come from these freshly realized agents of social change documented their struggles as Black individuals living in a time and country unsettled by their very existence, as well as the voting power they could now wield as a result of their education.

There is more research to be done and literature to be written on this subgenre of Civil Rights rhetoric, given that the rhetorical and political power of Freedom School students has not been recognized in equal standing to that of other adult Black rhetors of the Civil Rights Movement. It may prove beneficial for future literature to incorporate into this conversation the failings of American public schools to a higher degree. As it was not conducive to this paper, much discussion of the flaws with the public school system was omitted; however, other scholars should address the cradle-to-prison pipeline, staggeringly low percentages of Black and brown students achieving higher education, and other various and insidious ways that systemic racism pervades the American school system.
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WORK-LIFE AND HEALTH EXPERIENCES OF COMPUTER SCIENCE FACULTY PARENTS OF CHILDREN WITH DEVELOPMENTAL DISABILITIES DURING COVID-19

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Abstract

Prior to the COVID-19 pandemic, parents of children with developmental disabilities (PCDD) had been shown to experience more stress than parents of children without developmental disabilities (non-PCDD). COVID-19 may have exacerbated difficulties for PCDD. To compare differences in COVID-19 experiences between PCDD and non-PCDD, 202 parents working as computer science (CS) faculty reported their experiences of mental health symptoms, physical health symptoms, work-life conflict levels as experienced during the pandemic, and any changes in their childcare responsibilities because of COVID-19. Participants completed surveys on their experiences during Fall 2020 and Spring 2021, the first academic year after the start of COVID-19. Results showed that CS faculty PCDD experienced more mental health symptoms and higher levels of work-life conflict than did non-PCDD, which may have implications in the care that PCDD are able to provide to their children.

During the COVID-19 global pandemic, many aspects of American life—including financial and socioemotional aspects—were disrupted for parents and families (Iovino et al., 2021). Experiences varied for these individuals in many ways. While some individuals lost their jobs and livelihoods during the crisis, others transitioned to remote work with relative ease (Hibel et al., 2021; Kantamneni, 2020); however, “essential workers” risked their lives to provide valuable services to the public—such as staffing grocery stores and nurses’ offices (Hibel et al., 2021; Kantamneni, 2020). For civilians, experiences of the COVID-19 pandemic varied from deadly to merely uncomfortable. Additionally, the pandemic shed light on the disparity between individuals who were able to afford to stay home and individuals who were forced to stay home but could not afford to.

Although there was a wide-range of experiences in occupational changes, many parents faced similar experiences regarding their children. Many parents lost access to childcare when childcare facilities and schools shut down (Kalluri et al., 2021). With no warning, many parents found themselves scrambling to find childcare
while trying to balance work and other life experiences. Alternatively, if parents were able to work at home, they scrambled to keep their children entertained while taking important meetings or teaching classes. Some parents took on new roles as home “teachers” or “tutors” in an attempt to keep their children caught up and invested in school (Aishworiya & Kang, 2021).

For parents of children with developmental disabilities (PCDD)—a term that encompasses disorders such as attention-deficit/hyperactivity disorder (ADHD), autism spectrum disorder (ASD), and intellectual disability—COVID-19 may have introduced a significantly increased amount of strain to their lives in comparison to the lives of parents without developmental disabilities (non-PCDD; Aishworiya & Kang, 2021). Children with developmental disabilities often require consistent services—such as therapy—to help them thrive in the educational environment and beyond (Aishworiya & Kang, 2021). These children also benefit from resources such as behavior plans and classrooms that are matched to their educational abilities.

In 2020, at the beginning of COVID-19, PCDD lost access to a substantial amount of in-person resources. A survey was conducted with more than 800 caregivers of children with developmental disabilities, in which participants responded to surveys asking about the accessibility of resources for their children; 30% of the study’s participants reported that they had lost access to all previously used in-person resources, and 74% reported losing at least one valuable resource (Jeste et al., 2020). This loss of community support may be particularly challenging for PCDD, as PCDD are typically not trained to provide professional services to their children and their children may not understand the change of authority from teacher to parent when parents try to intervene on their own (Aishworiya & Kang, 2021). Cheng et al. (2022) suggested that having to provide “home interventions” might be putting extra pressure on PCDD after COVID-19, especially when those interventions are unsuccessful. In general, PCDD reported that they felt a sense of “helplessness” when thinking about the long-term effect that COVID-19 might have on the development of their children after losing beneficial in-person resources (Neece et al., 2020).

The purpose of this study is to analyze the effects of COVID-19 on life experiences of PCDD and non-PCDD in a computer science (CS) faculty sample. PCDD and non-PCDD subgroups were chosen from the larger group of CS faculty. CS faculty were chosen as the target demographic as part of a larger study to examine work and life outcomes of CS faculty. CS is a male-dominated STEM field, and women in CS have been shown to struggle in the field for many reasons (Diekman et al., 2019). Namely, women in CS have fewer mentors that they may identify with, as most CS faculty are male (Diekman et al., 2019). Additionally, women in CS tend to feel less belonging because they notice a lack of representation in the field. The larger aim of the project was therefore to examine life and work responsibilities that women in CS face in comparison to men in CS.
PCDD and non-PCDD were selected from the CS faculty sample to investigate if challenges differed between groups. Specifically, the aim of the study was to measure and compare PCDD and non-PCDD in terms of their mental health symptoms, physical health symptoms, and levels of work-life conflict (WLC) as experienced during the pandemic, as well as to compare changes in childcare responsibilities because of the pandemic. All of these factors may influence a parent’s ability to provide consistent parenting to their children. Knowing that consistency and support are valuable assets to children and especially to children with developmental disabilities for their educational attainment and prosocial growth, it is likely that the impacts of the COVID-19 pandemic may have particularly detrimental effects on parents and may subsequently negatively affect their children.

Children with Developmental Disabilities, and Parents’ Health Mental Health Symptoms

Preliminary evidence has found that PCDD may be experiencing increased mental health difficulties in comparison to their non-PCDD counterparts as a result of the stress of COVID-19. For example, Chafouleas and Iovino (2021) conducted a study with non-PCDD and with PCDD with children who have moderate to severe presentations of ASD and ADHD. The researchers had participants complete measures assessing their perception of caregiver burden and psychological distress during April 2020. Specifically, the Depression Anxiety and Stress Scale was used to assess symptoms of distress and stress. After having participants complete the scale and another measure assessing perception of caregiver burden, researchers had participants complete all measures again after 6 months. On measures assessing both caregiver burden and psychological distress, PCDD scored higher than their non-PCDD counterparts, although stress levels were found to be fairly stable among both groups of participants after the 6 month follow-up survey (Diekman et al., 2019).

Additionally, Kalb et al. (2021) conducted a study in which researchers collected survey data from parents with children with ASD through the Simon Foundation Powering Autism Research Project and from parents without children with ASD through the Pew Research Center’s American Trends Panel. Both groups of parents were asked to complete a survey about their psychological symptoms during COVID-19. This measure was created from items taken from the Center for Epidemiological Studies Depression Scale, among other measures. Participants were asked about differing symptoms of psychological distress, such as feeling nervous and depressed, and about their experience of somatic symptoms. Researchers found that a greater percentage of caregivers with children with ASD experienced symptoms of anxiety, depression, loneliness, and distress than did their non-PCDD counterparts. Additionally, a greater number of PCDD (25%) than non-PCDD (9%) reported experiencing somatic, physical symptoms of “hyperarousal” during COVID-19 presenting itself in ways such as “nausea, pounding heart, excessive sweating.”
Physical Health Symptoms

Research on somatic, physical health symptoms of PCDD during COVID-19 has not been well established in the literature, but before COVID-19, existing literature suggested that PCDD experienced more physical health symptoms. In 2014, Cantwell et al. had participants complete a series of measures including the Physical Symptom Inventory (PSI) to analyze differences in physical health symptoms between PCDD and non-PCDD. Researchers found that PCDD differed from non-PCDD in that they experienced worse physical health symptoms overall—specifically, sleep problems, headaches, gastrointestinal issues, and respiratory infections. Non-PCDD also self-rated their health as better than PCDD did. Current research supports that parents raising children with disabilities of all kinds consistently experience more somatic symptoms than do parents who do not have children with some sort of disability (Jing et al., 2022; Park, 2020).

Work-Life Conflict

Additional challenges that parents have faced during COVID-19 include trouble balancing work-life responsibilities. The literature around working PCDD particularly suggests that WLC may be increased for these individuals. Neece et al. (2020) interviewed PCDD in California and Oregon by phone, asking a variety of questions. During the interview, participants were asked about their COVID-19 experiences and any challenges that they were experiencing as a result of COVID-19. PCDD reported that balancing work and home responsibilities was one of their biggest challenges. Other PCDD expressed concerns over financial difficulties (i.e., losing a job) and conflict within the family structure that was exacerbated as a result of extra time spent at home during COVID-19. Cheng et al. (2022) found that PCDD who were working full-time jobs were also more likely to report feeling more overwhelmed than were PCDD who were working less than full-time. These types of issues may also be increased by the length of COVID-19 protocols and shutdowns; researchers found that as COVID-19 continued, the positive outlook of PCDD decreased because of the increases of childcare responsibilities at home and their experience of inability to balance work and home responsibilities. Whether PCDD experience more or less WLC than their non-PCDD counterparts has not been well established in the literature, however.
the pandemic. In addition, the present study examines these differences between PCDD and non-PCDD within a CS faculty sample.

The “ideal STEM worker” is expected to forfeit personal relationships in favor of working long hours, prioritizing work, and producing successful research (Ecklund & Lincoln, 2016). Many CS faculty are encouraged to meet the standards of the “ideal STEM worker.” Because CS faculty are expected to achieve on such an extreme level and in many cases may have to forfeit other important parts of their lives to prioritize work, these standards may make it even harder for them to provide consistent care to their children even without the addition of new challenges and difficulties caused by COVID-19.

CS faculty were also chosen as the principal demographic of interest because the computer science field is projected to grow rapidly in the next couple of years. Additionally, this field is particularly inequitable (U.S. Bureau of Labor Statistics, n.d.). According to Computer Science.org, women annually account for only about 18% of all computer science bachelor’s degrees, meaning that on average, men receive most of the training and degrees needed to excel in the CS field. Subsequently, men are typically offered the high-paying opportunities that are available in the field (Computer Science, 2022); thus, the larger aim of the research was to examine barriers that women face in the CS field to inform practices to add women in the gaps.

Present Study

The present study examines life dimensions of CS faculty as a result of COVID-19. Specifically, this study examines levels of mental health, physical health, and WLC, as well as increases in childcare responsibilities, because of the pandemic. This study seeks to corroborate the current literature on increased levels of mental health symptoms of PCDD as well as extend the literature by comparing PCDD and non-PCDD on physical health symptoms, WLC, and increases in childcare. It is hypothesized that CS faculty PCDD experienced more perceived stress, somatic symptoms, and WLC than did non-PCDD during COVID-19. Additionally, it is hypothesized that PCDD had increased childcare responsibilities because of the pandemic than did non-PCDD. Data collected from CS faculty from Fall 2020 and Spring 2021 are used to test these hypotheses.

Method

Participants

Participants were part of a larger study designed to examine the work-life experiences of CS faculty from universities and colleges across the United States during Fall 2020–Spring 2021. For the present study, using data collected from the
larger study, the only participants included were the 201 CS faculty who reported they had at least one child under the age of 18 living at home at least 4 days per week. Within this sample of participants, 53.2% ($n = 107$) were women and 44.8% ($n = 90$) were men. When asked about current marital status or whether they were living with a partner, 92% ($n = 185$) of participants reported being married, 0.1% ($n = 2$) reported currently living with a romantic partner, and 7% ($n = 14$) responded that they were single. Occupational positions held by participants in order of highest to lowest percentage were associate professor (30.85%, $n = 62$), full professor (20.40%, $n = 50$), assistant professor (20.40%, $n = 41$), non-tenure line (15.92%, $n = 32$), and other (7.96%, $n = 16$).

Based on self-report of caregiver status, participants were split into two groups: PCDD and non-PCDD. Participants were not asked to disclose which developmental disability or disabilities their children had.

Procedures

To recruit CS faculty, e-mails were sent to the department heads of all universities in the United States with messages posted online and were dispensed by those department heads to other CS faculty. Recruitment information detailing the study was also posted to various CS-related websites that may be of interest to CS faculty members (e.g., Association of Computing Machinery Special Interest Group in Computer Science Education listserv). Lastly, because there are so few women in computer science, e-mails alerting them to the study were sent to the university e-mail addresses of every woman-identifying CS faculty member around the United States with e-mail information posted on the Internet. This allowed us to gain the sample size needed to contrast the experiences of women and men in the CS field. To control for stress of finals week and the beginning of the semester, data were not collected during the first two and final two weeks of the fall and spring semesters.

Before participation, participants read through a digitally provided informed consent. Data were collected through Qualtrics, an online survey software, and all data were anonymous. Participants answered demographic items and completed surveys. Survey measures contained questions on work and life experiences, including WLC, perceived stress, physical health symptoms, and changes in childcare responsibilities due to COVID. After completion of the survey, participants were directed to another survey for a chance to submit their name and e-mail address to be entered into a drawing for the chance to win one of fifteen $50 gift cards. Names and e-mails were stored separately from survey responses to ensure anonymity.
Measures

*Developmental Disability*

Participants were asked to indicate by answering *yes* or *no* whether any of the children living in their homes had one or more developmental disabilities, physical health problems, or long-term serious mental health problems.

*Perceived Stress*

Additionally, participants were asked to report their mental health difficulties within the past month of data collection by completing 14 items on the Perceived Stress Scale (Cohen et al., 1983). Participants rated how often they felt emotions such as feeling unable to control the important things in their life on a scale of 0–3 (*0* = *never*, *3* = *fairly often*). The Cronbach’s alpha was equal to .621. Scores were obtained by reverse-coding seven positive items and then summing all rankings on the 14 total items; higher scores indicated higher perceived stress.

*Physical Health Symptoms*

PCDD and non-PCDD were asked to report on physical health symptomology within the past 30 days of data collection. Participants completed the PSI (Spector & Jex, 1998) and were asked to report their experience of symptoms of a variety of physical health problems (e.g., upset stomach or nausea) on a scale of 1–3 (*1* = they had had no experience; *2* = they had experienced the symptom but hadn’t seen a doctor; *3* = they had experienced the symptom and had seen a doctor for it). Items were recoded so all symptoms (whether or not the participant had seen a doctor) were coded as a 1 and summed, so total scores reflect the total number of symptoms experienced over the past 30 days.

*Work-Life Conflict*

PCDD and non-PCDD were asked to report their experiences with WLC by completing the Work-Family Conflict Scale (Netemeyer et al., 1996). Participants rated their agreement with five items using a 5-point numerical rating scale (*1* = *strongly disagree*, *5* = *strongly agree*) including items such as “your job produces strain that makes it difficult to fulfill your family or personal duties.” The five items were found to be internally consistent (Cronbach’s alpha = .918). Item scores were averaged together to create an overall WLC score, with higher scores indicating higher levels of conflict.
Changes in Childcare Due to COVID

PCDD and non-PCDD also completed one item to assess changes in childcare responsibilities because of COVID-19 (Yildirim & Eslen-Ziya, 2020). Participants were asked to report on a scale of 1–5 (1 = Significantly less time, 3 = Same amount of time, 5 = Significantly more time) the time spent on changes in childcare responsibilities compared to prior to the COVID-19 outbreak. For the purposes of this study, the numerical rating scale of the original item was edited to include a wider range of responses.

Results

Descriptive Statistics

Preliminary analyses indicated that a total of 32 participants (16%) reported having a child with a developmental disability living at home and that 170 participants (84%) reported having a child without a developmental disability living at home. Descriptive statistics for study variables for PCDD and non-PCDD respondents can be seen in Table 1.

Table 1. Descriptive Statistics for PCDD and Non-PCDD

<table>
<thead>
<tr>
<th>Variable</th>
<th>PCDD</th>
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<th></th>
<th>non-PCDD</th>
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<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Perceived stress</td>
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<td>5.87</td>
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<td>3.47</td>
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<tr>
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<td>4.08</td>
<td>.78</td>
<td>167</td>
<td>3.76</td>
<td>.84</td>
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<tr>
<td>Increases in childcare</td>
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<td>149</td>
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<td>.95</td>
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<tr>
<td>responsibilities</td>
<td></td>
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A crosstabs analysis was performed to examine the number of men and women who had a child at home with or without a disability. A majority of cisgender women included in the sample did not have a child with a disability at home (n = 89, 83.2%), although a small portion did have a child with a disability at home (n = 18, 16.8%). A majority of cisgender males included in the sample did not have a child with a disability at home (n = 77, 84.6%), although a small portion did (n = 14, 15.4%). In a small proportion of participants who identified as nonbinary, transgender male, and transgender female, no participants had a child with a disability at home (n = 4,
100%). The Pearson’s chi-square test was not significant, indicating that having a child with a disability at home did not differ by gender. \( \chi^2 (4, n = 202) = .844, p = .932. \)

Mental Health Symptoms

An independent sample \( t \)-test was conducted to study differences in perceived stress between PCDD and non-PCDD during COVID-19. Levene’s test of equality of variances was not significant, indicating that the sample variances were equal. Results revealed that, as hypothesized, PCDD \( (m = 22.85) \) reported experiencing a significantly greater amount of perceived stress than did non-PCDD \( (m = 19.51) \), \( t(170) = –2.67, p = .008, d = .56. \)

Physical Health Symptoms

To examine differences in psychosomatic symptoms in PCDD and non-PCDD during COVID-19, an independent sample \( t \)-test was conducted. Levene’s test of equality of variances was not significant, indicating that the sample variances were equal. Results revealed no significant differences in the experience of psychosomatic symptoms between PCDD \( (m = 5.78) \) and non-PCDD \( (m = 4.66) \), \( t(172) = –1.48, p = .140, d = -.31. \) The results therefore failed to support the hypothesis.

Work-Life Conflict

An independent sample \( t \)-test was conducted to examine differences in WLC between PCDD and non-PCDD during COVID-19. Levene’s test of equality of variances was not significant, indicating that the sample variances were equal. As hypothesized, results revealed a significant difference in WLC score between PCDD \( (m = 4.08) \) and non-PCDD \( (m = 3.76) \), \( t(196) = –2.00, p = .047, d = –.39. \) PCDD, on average, experienced more WLC than did their non-PCDD counterparts.

Childcare Responsibility Increases due to COVID-19

An independent sample \( t \)-test was conducted to examine differences in increases of childcare responsibilities among PCDD and non-PCDD. Levene’s test of equality of variances was not significant, indicating that the sample variances were equal. Results revealed no significant difference between PCDD \( (m = 4.18) \) and non-PCDD \( (m = 4.05) \) in increases in childcare responsibilities, \( t(175) = -.65, p = .514, d = -.14. \) The results therefore failed to support the hypothesis.

Follow-Up Analyses

Follow-up analyses were conducted to see if gender interacted with PCDD status to predict outcomes of COVID-19. During COVID-19, working women were
handling more childcare responsibilities in comparison to working men (Zamarro & Prados, 2021), a phenomenon that was also consistent in literature prior to the pandemic (Del Boca et al., 2020; Peterson & Gerson, 1992). Factorial ANOVAs were conducted with gender (man, woman) and child disability status as predictors of each outcome variable (mental health, physical health, work-life conflict, changes in childcare responsibilities due to the pandemic).

Results indicate that gender and child disability did not significantly interact to predict mental health symptoms, physical health symptoms, WLC, or childcare responsibility increases; however, there was a significant main effect of child disability status on perceived stress ($F(1, 165) = 6.485, p = .012$), with PCDD reporting more perceived stress than did non-PCDD. There was also a main effect of gender for WLC ($F(1, 190) = 9.684, p = .002$), with women reporting more WLC than did men. Results of follow-up analyses are available upon request.

Discussion

This research investigated whether the experiences of PCDD and non-PCDD within a CS faculty sample were different in terms of mental health symptoms, physical health symptoms, WLC, and increases in childcare responsibility due to COVID-19. As hypothesized, PCDD experienced more WLC and mental health symptoms than did their non-PCDD counterparts. It was also hypothesized that PCDD would experience more changes in childcare responsibilities and physical health symptomology than would non-PCDD, but, contrary to these hypotheses, there were no significant differences between groups in changes in childcare responsibilities or physical health experiences.

Current findings on higher WLC and increased mental health symptoms being experienced by CS faculty PCDD during COVID-19 are consistent with existing literature on other groups of PCDD. Some PCDD have reported experiencing a loss of occupation, while others, especially those working full-time, have reported experiencing extra difficulties balancing work responsibilities with responsibilities at home (Neece et al., 2020). For CS faculty, who are expected to work particularly rigorous hours and to prioritize their work over all else, COVID-19 may have presented additional challenges in the form of WLC.

In terms of mental health symptoms, previous research has established the increase in stress levels in PCDD by investigating and finding increased feelings of loneliness, burden, and distress in samples of PCDD compared to non-PCDD (Chafouleas & Iovino, 2021). In general, participants may have been experiencing an elevated level of stress to a degree that had never been observed in previous data because of the context surrounding data collection. When collection began, the nationwide quarantine had just gone into effect and vaccinations were not readily available to a majority of people. PCDD and non-PCDD therefore may have
experienced additional stresses that might not have been so prevalent at a different stage in the pandemic.

Current findings on physical symptom experiences during COVID-19 contest the limited existing literature, however. Kalb et al. (2021) found that PCDD reported experiencing more hyperarousal symptoms than did their non-PCDD counterparts; however, current findings reveal no significant differences between groups. This discrepancy could be explained by the different demographics between samples; Kalb et al. (2021) included participants from the general population who had varying levels of educational attainment (from a level of less than high school to having earned a graduate degree) and, as a result, a likelihood of lower socioeconomic status of participants. In contrast, our sample contained CS faculty participants who were, by majority, high in socioeconomic status. This elevated status may have allowed them to access significant resources—such as hiring tutors for their children—more easily than other groups of PCDD could have during COVID-19. Additionally, around 50% of PCDD included in the study conducted by Kalb et al. (2021) indicated that they had a history of a mental health condition that could have made the sample more likely to experience symptoms of hyperarousal. Mental health history of participants was not a demographic variable collected within the present sample.

Between groups, there were no significant differences in changes in childcare responsibilities because of COVID-19. This may suggest that gender roles could be a factor. For all women in the sample, regardless of PCDD or non-PCDD status, childcare responsibilities may have been higher before COVID-19 because of female gender roles; therefore, there may not have been any significant changes for women. Similarly, because of gender roles for men, the men in the sample may have had lower levels of childcare responsibilities before the pandemic and experienced no significant changes as a result of the pandemic. Similar levels of changes in childcare responsibilities among women and men therefore seem to be consistent with the results found in follow-up analyses.

Another factor that may influence changes in childcare responsibilities because of COVID-19 may be related to the traditional American family structure. In the traditional American family structure, the highest-earning individual is deemed the breadwinner of the family. As CS faculty, all participants of this study are considered high-earning individuals. Typically, the top earner is expected to perform fewer caregiving responsibilities within the home. CS faculty therefore may have had lower childcare responsibilities before COVID-19 and their status may have not been threatened by the pandemic.

If there had been an item about increases in childcare responsibilities that included a question asking about increased responsibilities of parents in providing types of supportive care—such as holding home interventions—PCDD and non-
PCDD may have reported different experiences, which may have influenced WLC average scores between groups.

Limitations

The present study was limited in measurement and sample. One item was used to ask participants if they had a child who lived at home with them for 4 or more days per week and who had a developmental disability, physical health problem, or long-term serious mental health problem. If parents responded yes to this question, they were automatically placed in the PCDD group. The study did not include a follow-up item asking participants to report the child’s particular diagnosis or an item verifying whether their child’s problem(s) had been diagnosed through clinical evaluation. Although many developmental disabilities are concurrent, experiences may vary for parents with children with differing diagnoses. For instance a child with ADHD may be more likely to need assistance sitting still and sustaining attention on virtual assignments, whereas a child with an intellectual disability may need tutoring assistance. Different types of developmental disabilities can present different types of challenges for the children and the parents, which is not something that was examined in this study.

Even if this study had included a set of additional items asking about the particular diagnoses and clinical status of those diagnoses for the children of PCDD, the sample size was too small for distinguishing between the types of developmental disabilities represented within the children of the PCDD in the sample. Additionally, the item included PCDD in the sample as long as they had a child in the home for at least 4 days of the week, but experiences for PCDD who have children in the home 7 days per week may be different than those for PCDD who have their children in the home for less time. In particular, future studies could address this limitation by specifically asking about diagnosed developmental disabilities within the household. If respondents indicate that they have a child with a developmental disability in their household, a few follow-up items should clarify some details about the family. One item should ask about the number of children within the home who have a diagnosed developmental disability; another should ask about the frequency of diagnosis of each child with a diagnosed developmental disability in the household. Children with comorbid disorders may present with different symptoms and may therefore require different types of care. These extra clarifying details may help us gain a clearer image of the challenges that COVID-19 has worsened within these families and how experiences between PCDD may differ drastically because of these additional factors.

An additional limitation regarding sample size was that analyses could not be conducted for factors such as race, ethnicity, socioeconomic status, and family structure within PCDD because the sample size of PCDD was so small. It is likely that
different subgroups of PCDD may have differing COVID-19 experiences. Future studies should address these limitations by including a larger, more diverse, sample of participants so different subgroups of PCDD can be analyzed for their COVID-19 experiences.

Application

This study is important because it examines the worsening health and circumstances of parents in a high-stress field. Consistent positive care from parents is ideal for the health and well-being of their children. Factors that may affect the type of care that parents show, such as experiencing a large amount of strain at work, may therefore have consequences for children. It is likely that even before COVID-19, parents with PCDD faced difficulties that were different from those faced by non-PCDD; however, the challenges faced by PCDD were likely exacerbated by transitions to remote work and resource loss. This study demonstrates that significant parts of the population have found themselves in worsening situations during COVID-19. Relevant support systems and treatment should be offered to PCDD to address some of the stress and distress experienced as a result of challenges becoming increasingly difficult to manage during the pandemic.
References


ALMOST 30 YEARS LATER: ANTI-FEMICIDE ACTIVISM IN MEXICO FROM 1993 TO 2022

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Abstract

What factors have influenced the strategies of the anti-femicide social movement, and what has this movement accomplished after continuously advocating for almost 30 years? Analyzing news articles, scholarly journals, books on social movements, and Twitter accounts, I argue that the inaction of the government was a root cause of the movement’s change in strategies, from peaceful petitions to highly visible vandalism, and that institutional barriers prevent progress on this issue even in the current day. I demonstrate that transnational activism through international institutions such as the United Nations had a limited impact on effecting domestic change but that using social media to spread awareness of femicide as an issue was effective in promoting transnational solidarity. Finally, I argue that the anti-femicide movement had success in raising awareness of femicide and gaining legislation that criminalized femicide, even if femicide still remains a national issue. Analyzing the strategic shifts in the anti-femicide movement allows one to understand why social movements must adapt their strategies to the political opportunities they are faced with. Moreover, femicide is a global issue, and understanding the achievements and limitations of the movement can help other activist groups create their own strategies in their respective countries.

Introduction

“Que tiemble el Estado, los cielos, las called / Que tiemblen los jueces y los judiciales / Hoy a las mujeres nos quitan la calma.” These lyrics translate to “May the State, the sky, the streets tremble / may the judges and policemen be afraid / Today, peace is taken away from us women” (Laszewicki, 2022). These are the opening lines to a popular femicide protest song known as “Cancion sin Miedo,” or “Song Without Fear,” sung as both a tribute and a statement of rage by Mexican women (Laszewicki, 2022).

The Mexican anti-femicide movement began in 1993 after an incident of mass femicide in Ciudad Juarez, where maquiladora (factory) employee Alma Farel became the first recorded case of femicide (COW Latin America, 2021). Femicide,
defined as “the killing of a female specifically because she is a female” (Álvarez-Garavito & Acosta-González, 2021, p. 13), remains a pressing issue 30 years later, as an average of 10 women a day are victims of femicide (Rios, 2022). Indigenous women are even more likely than non-Indigenous women to experience femicide (Frias, 2021, p. 10).

The anti-femicide movement has advocated for national attention and fundamental change to an issue that affects every Mexican woman, whether she is an elite legislator or a working-class factory employee. Anti-femicide activists face a deeply gendered government that limits their political opportunity structure, yet they were successful in their advocacy for the passage of the General Law on Women’s Access to a Life Free of Violence. This 2007 law has not been widely enforced, however, and activists are still calling for an end to femicide.

What factors have affected the strategies of the 30-year anti-femicide movement in Mexico, and what are its accomplishments? In this paper, I examine the strategies and objectives of this movement, how transnational activism has influenced the case of anti-femicide activism, and finally, the barriers to success and outcomes of this activism. I argue that the strategies of the movement have changed over time because of a lack of action from the Mexican government, even while the objective has consistently been to gain recognition and legal protection. Moreover, transnational activism has pressured the Mexican government to listen to domestic activists, but this international pressure has fallen short of effecting lasting change. Finally, the achievements of the anti-femicide movement have been few and far between, thanks to entrenched institutional barriers such as dismissal from federal and local politicians and internal class divisions within the movement.

Demands of the Anti-Femicide Movement

The anti-femicide movement in Mexico has been prevalent for almost 30 years, and their demands for recognition and protection of women’s social and legal status have remained constant throughout the movement. The anti-femicide movement has not focused its attention on representation in the political system, instead focusing on changing political institutions by using outside pressure. Earlier women-dominated social movements in Mexico stemmed from the need to survive, targeting government policy that undermined their right to a vida digna, or dignified life (Craske, 1999, p. 121). The anti-femicide movement also is a direct result of these interests, as the very lives of Mexican women are jeopardized daily.

The demand for recognition refers to the demand to have your concern viewed as legitimate (Orvis & Drogus, 2020, p. 118). Earlier campaigns, such as the 2004–2009 Justicia Postcard Campaign, to be discussed later, demonstrate that before activists could argue for specific legislation, they had to bring this problem to the center of political discussions. Even now, anti-femicide activists must fight to
remain relevant in Mexican politics. President Obrador has stated that he has no interest in addressing the problem of femicide, as he believes “that progress has been made to defend women’s rights” (Reuters, 2022), although this progress has not addressed how 10 women become victims of femicide daily (Rios, 2022). Anti-femicide activists have centered their activism on promoting women’s social, legal, and economic status. For example, the fight to criminalize femicide resulted in the federal General Law on Women’s Access to a Life Free of Violence, which criminalized femicide in 2007 (García-Del Moral, 2020, p. 845).

In August 2019, activists met with the mayor of Mexico City, Claudia Sheinbaum, to present their demands, and this direct pressure resulted in the creation of a registry of sex offenders, which was one of their demands (Villegas, 2020). Moreover, in the anti-femicide protests in 2020, activists demanded the creation of a prosecutor’s office for femicide and disappearance cases, in addition to pushing federal government officials and the mayor of Mexico City to promote reproductive rights and equal pay (Villegas, 2020). Because earlier activists in the Justicia Campaign had been able to raise awareness about femicide and to keep public attention on this issue, this allowed others in later stages of the movement to devote their attention to directly pressure the government for change. This demonstrates how movements do not rely on one strategy but instead must identify key moments to act and to decide what is the most effective strategy to achieve their goals.

Strategies of the Movement Over Time: From Postcards to Burning Doors

Anti-femicide movements have used multiple strategies to pressure their governments into action, starting with peaceful postcard campaigns and strikes, and moving to a recent emphasis on utilizing violence in demonstrations. Social movements are contextualized within their society, which gives them particular resources, cultural context, and political opportunity structure within which they can operate (Orvis & Drogus, 2020, p. 223). Regional context is important in understanding why social movements in Latin America may operate differently than their counterparts in the United States or Europe. For example, European social movements see the erosion of state legitimacy as a moment for political opportunity (Escobar and Alvarez, 1992, p. 53). When the state is losing power, there is an increase in political opportunity for social movements to act and monopolize this uncertainty of power. In comparison, constant state impunity, rather than state power erosion, caused the anti-femicide movement in Mexico to change its strategies over time, as a response to the hostile political opportunity structure. It is the strength, not the erosion, of state power that has shaped the anti-femicide movement.

In Mexico, the state itself is a roadblock to progress because of the difficulty that interest groups face in accessing decision-making spaces (Craske, 1999, p. 187).
Among activist circles, there are discussions on how femicide is a “misogynous genocide resulting from the state’s ‘failure to provide women with guarantees or with conditions of safety’ and hence a ‘state crime’ ” (García-Del Moral, 2020, p. 858). The Mexican government has continued to be virtually complicit in the issue since 1993. The anti-femicide movement is a broad coalition of elite and working-class women, who face various institutional and cultural setbacks. Elite women in the legislature face a gendered institution that limits their ability to pass legislation, whereas working-class women have to struggle to even get a say in the political process. In response to these various barriers, activists have employed both peaceful and violent strategies to bring attention to the issue of femicide.

The earlier years of the anti-femicide movement embodied the concept of *coadyuvante*, the goal for state and federal governments to cooperate with anti-femicide advocates in addressing the problem of femicide (Serviss, 2013, p. 614). One of the earliest campaigns from the anti-femicide movement was the Justicia Postcard Campaign, led by the organization Justicia Para Nuestras Hijas, from 2004 to 2009. The goal of this postcard campaign was to raise awareness of femicide by discussing it in mainstream public discourse. The postcards had two sections. The top was a “funeral prayer card” that the recipient kept and that displayed the victim’s biography and the context of her death and disappearance (Serviss, 2013, p. 620). The bottom section would then be mailed to government officials to petition them to change their laws around femicide (Serviss, 2013, p. 620). These postcards were also used to build solidarity among the activist groups at the time in their collective call to end femicide, while also allowing the families of the victims to monitor how their daughters’ identities were used, as they wanted the recipients to see “an individual girl rather than a dead prostitute” (Serviss, 2013). In this way, activists were able to add a personal layer to their campaign to spread awareness without minimizing the victim to a political martyr. Moreover, because this peaceful campaign targeted legislators to either change or introduce legislation that targeted the problem of femicide, it clearly demonstrates that the concept of *coadyuvante* was prevalent in the early anti-femicide movement (Serviss, 2013, p. 619).

After years of government inaction and a lack of meaningful progress on ending femicide, the movement reached a watershed point in 2019. In what is now known as the Glitter Revolution, protestors in Mexico City dumped pink glitter on officials who were complicit in the mishandling of the sexual assault and the murder of a minor (Rios, 2022). This highly visible action carries weight, as “glitter bombing is not only visually striking as it identifies and publicly shames the enemy; it’s also force-free… Pink glitter became a vivid reminder that women’s patience had been tested to the limits and that direct action was the next step in a mounting struggle” (Garza, 2020, p. 54). Since 2019, there has been a shift toward the use of vandalism, especially with spray paint. During the Glitter Revolution, protestors spray-painted the historic Ángel de la Independencia monument with the accusatory message “The
Motherland Kills” (Rios, 2022). This tactic is used to make society and the Mexican government question which has more value: property, or the lives of women and girls across the country (Rios, 2022). Highly visible strategies such as vandalism and dumping glitter serve as “political performances,” which aim to garner widespread attention to legitimize activists’ demands for change (Orvis & Drogus, 2020, p. 224).

In 2020, women went on a strike to demonstrate just how powerful the absence of women is, as they refused to show up for work, school, and even government meetings with President Obrador (Villegas, 2020). This action was advertised through the hashtag #UnDiaSinNosotros, A Day Without Us. The day after, the women returned to the streets in mass protests, participating in vandalism and violence (Villegas, 2020). Femicide continued to haunt the reality of Mexican women, and this grievance against the state resulted in the takeover of the National Human Rights Commission in September of 2020. Protestors wanted to highlight that many laws are in favor of women’s rights but that those in power routinely fail to enforce those laws, perpetuating a deadly environment for women (Rios, 2022).

Although the anti-femicide movement may have started with the goal of coadywante, it is clear that activists have lost faith in their government to collaborate with them. The most recent demonstration was on International Women’s Day 2022, when protestors set fire to the door of government buildings in Monterrey (Reuters, 2022). This demonstrates that nearly 30 years of inaction and lack of government accountability have made the anti-femicide movement shift toward employing violence to keep the attention on their movement.

Mobilization Through Social Media: Solidarity and Backlash

Social media has become a strategy for social activism of its own kind, evident in the mobilization of protest movements such as Occupy and the Arab Spring (Orvis & Drogus, 2020, p. 228). Hashtag campaigns are now even considered a repertoire for social movements, given an increasing interdependence between the virtual and tangible worlds (Rovira-Sancho, 2023). Social media has the capacity to bypass mainstream media and quickly spread a movement’s grievances and demands in order to provide a democratic, horizontal public space for many individuals to engage in dialogue on pressing issues, air their grievances, and spread innovative ideas (Orvis & Drogus, 2020, p. 225). The ease of communication and sharing of information shows users that others think like them, which makes it more likely for them to speak out or join the movement (Orvis & Drogus, 2020, p. 225). The existing theory also discusses that social media can lead to slacktivism, a “low cost, low commitment activism that has little impact” (Orvis & Drogus, 2020, p. 224). An example of slacktivism is an individual posting on their Instagram story to feel as if they have contributed to a larger dialogue, despite exerting little to no actual pressure on larger societal forces. Social media must therefore be used strategically in
movements to avoid slacktivism. Although the threat of slacktivism is real, this case of Mexico shows there is also potential for political backlash on social media platforms.

The anti-femicide movement has used various hashtags to spread information and raise awareness about their cause, beginning in 2015 with the #NiUnaMenos (Not One More) and #RopaSucia (Dirty Laundry). #NiUnaMenos became a rallying cry in Argentina because activists were protesting femicide within their own country. For Mexican anti-femicide activists, this hashtag amplified their own cries for change within their country (Alcolba & McGowan, 2020). The resonance of #NiUnaMenos in many Latin American countries, including Mexico, demonstrates the use of social media in facilitating cross-border solidarity. The popularity and resonance of #NiUnaMenos also demonstrate how social media can facilitate social movements by lowering the cost of creating and organizing movements and allowing for action to take place without requiring the physical presence of individuals (Orvis & Drogus, 2020, p. 225). The ease of communication and sharing of information shows users that others think like them, which makes it more likely for them to speak out or join the movement (Orvis & Drogus, 2020, p. 225).

#RopaSucia gained popularity in 2015 and was used to call out perpetrators of misogyny in academic circles, as a way of calling out those complicit in the perpetuation of misogynistic cultural views and gender discrimination (Garza, 2020, p. 51). Sexist comments allow for a greater societal attitude that dismisses gendered violence, leading to the perpetuation of large-scale crimes such as femicide. In a movement that targets gendered violence, women not only have to address complicit political structures but also challenge the society around them that normalizes misogyny and sexism. Moreover, when the main tactic of repressing voices speaking out against gendered violence is silencing voices, social media becomes a realm where massive numbers of stories can be shared, creating the conclusion that all stories shared are true (Rovira-Sancho, 2023). Two years later, in 2017, #SiMeMantan (If They Kill Me) was created to respond to the unfair accusations placed on femicide victims to justify their murders. The hashtag was inspired by the death of Lesvy Osorio, who was brutally murdered at the National Autonomous University of Mexico. After her death, the media blamed Osorio for her own death, rather than blaming the man who murdered her (Soloff, 2019). By 2017, 24,000 women had been victims of femicide (Soloff, 2019), yet the media continued to blame the victims rather than the murderers. The goal of this hashtag was to tweet small, trivial things that might be held against a woman one day if the woman was murdered. The overarching question here is, If they kill me, what will they say to blame me for my own death? (Soloff, 2019). In the same way that #RopaSucia calls out normalized incidents of misogyny, #SiMeMantan calls out the victim-blaming that has been placed on femicide victims since Ciudad Juarez. Challenging harmful
societal norms is as key to ending gendered violence as is challenging harmful institutional norms and practices.

Moving toward the present day, #UnDiaSinNosotros (A Day Without Us) was used in 2020 to show the world what the lack of women’s presence would look like, as many women did not attend school or work on this day (Villegas, 2020). This hashtag was not the demonstration itself but instead was used to display the actions of demonstrators instead of relying on mainstream news sources to convey their message.

Some hashtags have been used in backlash to the anti-femicide movement, such as #EllasNoMeRepresentan (They Do Not Represent Me). In this online movement, women denounced the actions of anti-femicide protestors to separate themselves from the movement (Rios, 2022). Specifically, the women who used this hashtag were responding to the violent demonstrations that protestors engaged in during the Glitter Revolution, citing that violence delegitimizes valid complaints against the state (Palacios, 2019). For example, Twitter user @RossyTB tweeted, “The feminists are a group subsidized by dark interests . . . people who have lost their privileges and want a confrontation” (2020, translated from Spanish). This tweet demonstrates how people do not see violence as a respectable activist strategy and how controversial acts can divide public opinion about supporting the movement. Furthermore, the online backlash demonstrates how activists can use social media to their advantage, but so can their opponents. This makes social media another realm for political battles to be fought as both parties look to stay in the dominant discourse of the public.

The Boomerang Effect and Cultural Relevance in Transnational Activism

The use of social media brings one to the conversation of transnational activism, which was discussed above in the example of the #NiUnaMenos campaign and cross-border solidarity. Beyond social media, activists have employed the use of international organizations to pressure their governments, ranging from the Inter-American Court of Human Rights to the United Nations (UN). Specifically, the UN plays a vital role in dispersing global norms as well as fostering global debate (Craske, 1999, pp. 178–180). The UN also promotes a “gender-aware” approach to program implementation, in which women are integral to projects that are promoted by global institutions such as the International Monetary Fund and the World Bank (Craske, 1999, pp. 179–180).

The support from these international organizations can invoke the boomerang effect, which means activists employ these international networks to find information, money, and political support from more-powerful nations to pressure their domestic governments (Paxton et al., 2020, p. 209). An example of an international treaty that both promotes women’s rights as a global norm and provides
an opportunity for the boomerang effect is the United Nations Convention on the Elimination of All Forms of Discriminations Against Women (CEDAW). This is the most important treaty for women’s rights internationally, as it demands that countries change their laws to help women address discrimination across a broad array of categories, including education and family law (Paxton et al., 2020, p. 212). Mexico ratified the CEDAW in 1981 and the Optional Protocol in 2002 (United Nations Human Rights Treaty Bodies, n.d.). The CEDAW and Optional Protocol are important tools for activists to use in placing international pressure on Mexico to address femicide. The Optional Protocol allows complaints to be made against the state for the systematic violation of UN treaties, including CEDAW (International Justice Resource Center, 2018), and allows the CEDAW committee to investigate systemic violations of women’s rights in a specific country (Paxton et al., 2020, p. 214). Using these international treaties, activist organizations such as the Mesa de Mujeres and Católicas por el Derecho a Decidir present information on femicide, including accusations of impunity against the state, to the CEDAW Committee (Olsson, 2017, pp. 20, 28), maintaining femicide as an issue on the agenda for the international committee.

Although international norms such as CEDAW increase pressure on domestic governments, this does not always equate to change, as even after international organizations pressured Mexican government officials, there was no action taken to address femicide. For example, the Inter-American Court on Human Rights passed down the Cotton Fields decision in 2009, stating that the Mexican government must improve its investigations into femicides and take steps to prevent this violence (Vivanco, 2020). Earlier, this intergovernmental body had also pushed for the passage of the 2007 General Law on Women’s Access to a Life Free of Violence (Vivanco, 2020), which nationally criminalized femicide and recognized that femicide violates a woman’s human rights (García-Del Moral, 2020, p. 845). The General Law on Women’s Access to a Life Free of Violence law was passed, but as indicated by the later 2020 Takeover of the National Human Rights Commission demonstration, this law was not as effective as activists had hoped for. Moreover, even if court decisions are passed down by courts such as the Inter-American Court on Human Rights, international agreements, such as CEDAW, are not legally binding (Paxton et al., 2020, p. 213), meaning that countries can become signatories to these progressive documents without having any intention to follow through on their promises.

International organizations must understand the cultural and political dynamics of a domestic movement when conducting advocacy efforts; otherwise, they may fall short of their intended goal. This is evident in tensions between domestic and international anti-femicide movements in Ciudad Juarez, the Mexican border town where the first recorded femicides occurred (García-Del Moral, 2020, p. 846). Some international organizations contextualized their movements in a way
that did not resonate with the local culture, which undermined their effectiveness when compared to domestic organizations that operated culturally relevant anti-femicide movements (Starr, 2017, pp. 1367–1373). Moreover, transnational activism carries the risk of being viewed as the Global North imposing its beliefs onto other countries, subsequently being perceived as bourgeois or imperialist, especially when it leaves out the voices of activists in the Global South (Paxton et al., 2020, p. 203). Some North American feminists have ignored the voices of Latin American women, incorrectly believing the misconstrued notion that Latin American women do not see themselves as feminists (Escobar & Alvarez, 1992, p. 207). This ideology undermined potential international solidarity across feminist groups. Even if some anti-femicide groups still do not actively identify themselves as feminists, they are advocating for an end to gendered violence, a common goal across groups regardless of political label. International organizations and advocacy groups must therefore communicate with local populations to best support domestic activists, as this will give them a nuanced understanding of the domestic activists’ cultures. Simply, greater cultural resonance yields more effective international movements.

Outcomes of the Anti-Femicide Movement

Insofar as the anti-femicide social movement can be categorized under contentious politics, the achievements of the anti-femicide movement can be analyzed under the goals of social movements. As mentioned above, those goals include achieving recognition and securing women’s legal protection. Anti-femicide activists have advocated for recognition of the problem of femicide, evident in the Justicia Postcard Campaign, the increasingly violent strategies of the movement, and the #UnDiaSinNosotros demonstration. Achieving and maintaining recognition among the public and with government officials is important, as it ensures that one’s issue has a voice in national political debates. For example, in 2019, after the Glitter Revolution that caught the nation’s attention, Mexico City and 19 Mexican states issued a gender violence alert (Sandin, 2020). The issue of femicide is not unique to Mexico, and the use of social media such as #NiUnaMas allows for the issue to be recognized globally and fosters solidarity across borders.

The efforts of activists to gain recognition across Mexico have aided activists in changing state legislation regarding the legal status of femicide. Activists targeted policy change and output, common focuses of contentious politics (Orvis & Drogus, 2020, p. 229). In 2007, the General Law on Women’s Access to a Life Free of Violence was passed, criminalizing femicide nationally (García-Del Moral, 2020, p. 845). This law also identified femicide as a violation of a woman’s human rights and addressed the state’s tolerance of this crime (García-Del Moral, 2020, p. 845). The 2012 reform to Article 325 of Mexico’s federal criminal code codified femicide as a gendered crime and provided provisions for prosecuting public servants who delay justice for
victims (García-Del Moral, 2020, p. 845). Moreover, this reform recognizes the state’s role in perpetuating femicide and violence and “made the state itself a target of its own punitive power” (García-Del Moral, 2020, p. 845). The limits of structural power are one of the reasons femicide is perpetuated, as only 7% of crimes are reported and 3% end in a sentence (Spain’s news, 2019), so this reform is significant because it recognizes how the state perpetuates the problem. Reforms were also made in 2020 in Mexico City after Mayor Claudia Sheinbaum met with women’s interest groups. These meetings resulted in the creation of a registry of sex offenders and the passage of a local ordinance that criminalized the nonconsensual sharing of sexual content (Villegas, 2020). It is important to note that these reforms came after mass violent protests (Villegas, 2020).

External and Internal Challenges to the Movement

The anti-femicide movement has faced enormous barriers that have limited its ability to bring about policy change in the state in terms of action against perpetrators of femicide, as high impunity rates still prevent perpetrators from facing institutional consequences. Contentious politics, such as social movements, are affected by state capacity to respond as well as by strong internal solidarity and mobilization strategies (Orvis & Drogus, 2020, pp. 229–231). To begin, one must consider how the political context that this movement has operated within will affect the outcomes of its advocacy (Orvis & Drogus, 2020, p. 229). When a state cannot easily alter its legislation, advocacy efforts are almost in vain (Orvis & Drogus, 2020, p. 229). For example, institutions such as the Mexican Congress are gendered institutions (Bolzendahl, 2014; De Barbieri, 2003; Lovenduski, 2005). This implies that state power has deeply entrenched gender hierarchies in which stereotypical masculine traits such as aggression and individualism are rewarded and feminine qualities of compassion and communal approaches are penalized (Brush, 2003). Essentially, this gendered institutional structure produces institutional resistance to the anti-femicide movement (Brush, 2003), as there is no priority given to female-associated issues such as gender violence. This is evident in the delegation of legislative oversight, in which committees in the Chamber of Deputies had a female majority to address the issue of femicide (García-Del Moral, 2020, p. 853). In contrast, the senate committees were male-dominated and did not take the issue of femicide as seriously (García-Del Moral, 2020, p. 854). As discussed earlier, activists, including female legislators, have directly accused the state of its complicity in order to place pressure on their government. Many see femicide as a state crime because of inaction and high rates of impunity. Nearly 30 years of inaction later, these sentiments are still held by protestors, as evident in messages such as “The Motherland Kills,” which was spray-painted in 2019 (Rios, 2022). The lack of meaningful institutional response to femicide prevents an end to the issue because of the limited political opportunity for activists to work within.
This gendered government structure manifests even in the presidency, as President Obrador has dismissed this movement. Pointing to his appointment of women to cabinet positions, he “has rejected claims by activists that he is not interested in tackling femicides, saying that progress has been made to defend women’s rights” (Reuters, 2022). Obrador has also claimed that there is conservative infiltration in the movement to undermine his administration, even though this has not been proven (Reuters, 2022). Furthermore, he has promised to overturn neoliberal policies, but this promise has not extended to social issues such as women’s rights (Agren, 2020). These statements are interesting in a historical context, as earlier leftist ideology in Latin America argued that action on women’s issues was not a necessity, as their liberation would prevail alongside that of the working class after the establishment of socialism (Escobar & Alvarez, 1992, p. 208).

The sentiments expressed by President Obrador echo a similar message: that alleviating economic issues through overturning neoliberal policies should take precedence over issues faced by women. This dismissal from the president subsequently restricts the political opportunity structure for the anti-femicide movement. As President Obrador promises large reforms in other areas of society, he simultaneously rejects the need to push for progress on ending gender violence.

Anti-femicide activists have also witnessed their government prioritize government property over Mexican citizens, as barricades have been set up around the National Palace in Mexico City before large protests (Rios, 2022). Moreover, the police have unrightfully detained, sexually assaulted, and physically abused protestors without facing any accountability (Rios, 2022). The complicity in and perpetuation of assault by officers was a direct complaint from the anti-femicide movement. The fact that protestors are assaulted at protests demonstrates how they must address multiple institutions and put themselves in harm’s way while attempting to reimagine society.

Internally, there are divisions within the anti-femicide movements, especially along class lines between elite and working-class grassroots organizations (Starr, 2017, p. 1375). For example, even the ability to join protests against femicide is not a reality for some women, even if they support the movement. One woman, Juanita Hernandez, had to work as a street vendor while anti-femicide protests occurred across the city, citing the fact that taking a day off would bar her from accessing basic needs such as food for her and her children. She supported the movement personally, but financial barriers kept her from participating in demonstrations (Villegas, 2020). Both elite women, such as female legislators, and working-class women face barriers in their advocacy against femicide, but some elite women do not listen to the demands of the activists until they have been pressured, as evident in the mayor of Mexico City, Claudia Sheinbaum, who denounced the protestor demonstrations in 2020 because of the use of violence in the city (Villegas, 2020). As discussed earlier, it took a meeting with activist groups for Mayor Sheinbaum to recognize that there
needed to be a response to this issue, and without these meetings, any support from a woman in an elite role may have been withheld.

Conclusion

In this paper, I have analyzed the strategies and objectives of the anti-femicide movement in Mexico, and how social media and transnational activism have affected this movement. These activists have fought for recognition and legal protection in order to address how both culture and politics allow for gendered violence to occur at an unchecked rate. The rise of social media has allowed activists to spread their message beyond the mainstream media and to foster transnational solidarity. International actors, specifically the United Nations and the Inter-American Court of Human Rights, have lent support to domestic activists, but the boomerang effect was not as strong as activists may have hoped for. Anti-femicide activists have faced barriers from gendered institutions to internal class divisions yet still have made strides in addressing the issue of femicide.

Femicide has been criminalized and codified, and the movement has not lost popularity after 30 years, even if there have been changes to its political strategies. Femicide is a pressing issue that requires fundamental changes to society and political institutions, which these activists understand and have centered in their activism. Although it may seem that this issue may never be solved, one cannot forget the impact of contentious politics and the power that the masses truly have. The bravery of these activists led to legislative changes and has challenged the dominant cultural view toward gendered violence. One day, femicide will become a dark part of history, rather than a terrifying reality.
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SURVIVAL OF DEAF JEWISH PEOPLE DURING THE HOLOCAUST ERA

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Abstract

This project uses academic and personal research to explore the experiences of Deaf Jewish survivors of the Holocaust. The author is a member of the Deaf community and a Deaf Interpreter, as well as the daughter of a Deaf Jewish Holocaust survivor. She examines the construction of Deafness in the eugenics era and chronicles the stories of Deaf Jewish survivors. A recurring theme in these narratives is Deaf survivors’ strategic use of silence to facilitate survival.

Survival is a privilege which entails obligations. I am forever asking myself what I can do for those who have not survived. The answer I have found for myself (and which need not necessarily be the answer for every survivor) is: I want to be their [follower], I want to keep their memory alive, to make sure the dead live on in that memory.

—Simon Wiesenthal, Jewish Austrian Holocaust Survivor

In my early childhood years, I learned about survival—particularly the survival of Deaf Jewish people during the Holocaust—through my Deaf Jewish mother’s storytelling. This foundation of knowledge led to my research and understanding of how Deaf Jewish people survived during the Jewish Holocaust, including their experiences inside and outside of concentration camps through eugenics, forced labor, and well-calculated uses of silence. Based on my research and observations, those elements are discussed below.

The Jewish Holocaust

In my early childhood years, I always asked my Deaf Jewish parents questions about the Jewish Holocaust. I was very curious and wanted to understand why it
happened during that period. They shared with me their stories of the Jewish Holocaust as well as my Deaf Jewish mother's experiences escaping from Austria during her early years. My paternal grandmother’s family, including a Deaf great-granduncle, were destroyed by the Nazis during that period. Holocaust means “sacrifice by fire” and is from a word of Greek origin. The Jewish Holocaust was the result of a policy of the Nazis to wipe out all Jewish people.

It started in January 1933 and ended in 1945. During the Jewish Holocaust, Adolf Hitler was a politician who rose to power as a Nazi leader in Germany. His power spread to other countries, including Austria, Poland, and Hungary. Under Hitler, the Nazis targeted the Jews, persons with disabilities, people from other ideological and political groups such as Communists and Socialists, people with racial differences, and supporters of Jews who hid them from the Nazi leaders (U.S. Holocaust Memorial Museum [USHMM]). From my research and personal communication with a few late Jewish Holocaust survivors, I learned many facts about the Nazis’ grand plan to kill all Jewish people, including persons with disabilities, in both Germany and other countries where the Nazis rose to power. The Nazis’ treatment of Jewish people was an extreme example of eugenics.

Eugenics

Eugenics is a term of Greek origin meaning “good birth or stock.” The term was coined by English naturalist Francis Galton in 1883 (USMM). Galton supported the idea of people with good genetic traits producing healthy children to improve the human race (Claude Moore Health Sciences Library). Based on Galton’s thinking, the German leaders used “racial hygiene,” a term coined by German economist Alfred Ploetz in 1895 (USMM). Although Galton advocated for eugenic policies, Hitler took Galton’s ideas further by viewing Jewishness as a “hereditary ill” that needed to be exterminated. There were many eugenacists, including Alexander Graham Bell, who wanted to prevent any Deaf individuals, whom he believed were hereditarily ill, from marrying other Deaf individuals as well as from communicating through their native language, American Sign Language (ASL). Bell encouraged all Deaf individuals to communicate as oralists; in other words, they were coerced into using speech and lipreading skills instead of ASL. He deprived Deaf individuals of their language (Breuggemann 114).

Eugenics During the Nazi Era

In very early stages of the Nazi era, physicians targeted all Deaf individuals and other persons with disabilities. The goal was to get them to stop “breeding,” through either forced abortions (termination of pregnancies) or sterilization; Nazi leaders created a policy called the Sterilization Law in the early 1930s to support this (Biesold 20). This law targeted all those who were “deemed to have had a hereditary
disease” (Kersten). During the Nazi era, the physicians did not follow the Oath of Hippocrates, which states, “I swear by Apollo Physician... that I will carry out, according to my ability and judgment, this oath. . . . I will use treatment to help the sick according to my ability and judgment, but never with a view to injury and wrongdoing” (Evans 95). Nazi doctors chose not to follow the Oath of Hippocrates, instead choosing to observe the Sterilization Law established and enforced by the Nazis. Ironically, eugenics during the Nazi era was about doctors obeying the Sterilization Law and ignoring the Oath of Hippocrates to eliminate future children with disabilities, who were considered biologically ill and/or inferior.

Eugenics during the Nazi era had a massively negative impact on Deaf Jewish and non-Jewish communities in Europe, especially Germany. Many Deaf people were forcibly sterilized because the Nazis believed that deafness was a genetic disease and wanted it to be permanently erased from humanity. Between 1933 and 1945, roughly 15,000 Deaf people were sterilized by force. Of these 15,000, about 5,000 were children between the ages of nine and sixteen (Biesold 150).

Horst Biesold, author of Crying Hands, documented many heart-wrenching stories told by Deaf people as a result of the Sterilization Law. For example, in the chapter “Sterilization Legacy,” a Deaf woman who experienced the surgery when she was fifteen years old described her experience: “The police came for me at home and took me to the hospital without giving me any reason. After three days without food, I was sterilized. The incisions kept breaking open and I had to spend a year in the hospital. This was an unbearable torture for me because I was still very young” (150). The effects of sterilization on Deaf victims were overwhelmingly destructive to their overall well-being. Depression, suicidal thoughts, and thoughts about how life would have been different for them if they had not been sterilized were repeatedly reported (152). According to Biesold, sterilization took place in approximately thirty cities in Germany, including seventeen cities that had schools for the Deaf. The highest number of sterilizations reported by Deaf people occurred in Berlin (41). Most sterilizations took place between 1935 and 1937 (41). The social impacts of this Nazi brutality on Deaf people, both Jews and non-Jews, were profound; these people were permanently traumatized by what happened to them.

These horrific sterilizations were sloppily done, and little or no sedation was used during this surgical treatment. Many Deaf people and children, both Jewish and non-Jewish, suffered from this unnecessary procedure. They experienced a lot of physical, emotional, and mental pain. Nazis believed that they had the right to damage the Deaf person’s reproductive system to prevent future pregnancies of humans who were “hereditarily ill or inferior.”

By 1940, the Nazis had stopped the sterilization program and replaced it with “mercy killing.” They killed about 16,000 Deaf people. They also murdered babies whom they suspected of deafness and forced Deaf women to have abortions. The
Nazis instructed parents of Deaf children to send those children to doctors to be cured. Instead of being cured, however, these Deaf children were murdered and cremated, and their parents were notified by the Nazis that the children had died of natural causes, which was not true (Perry). My research shows that eugenics for Deaf Jews and non-Jews in Europe was mostly in the forms of sterilization and mercy killing.

Forced Labor and Silence

According to my mother’s stories while I was a little girl, she knew one Deaf Jewish survivor through her friend who luckily survived the Jewish Holocaust by cooking for the Nazi leaders’ group because he had not been able to hear what the Nazi leaders’ group’s meeting was about. I was humbled during my early childhood years to hear more stories of Deaf Jewish survivors through my mother’s friends who were survivors.

There were other Deaf Jewish survivors who opted not to share their horrible stories with anyone other than their families. They continued their silence long after the Holocaust. Several decades following the Holocaust, I asked them about their Holocaust experiences, and some of them willingly shared their horrifying stories with me personally.

One of my mother’s Deaf best friends, Rose Feld-Rosman, shared her stories with her daughter, Esther, and my mother, Luba. She and her hearing family, including her mother and her sister, hid in the cellar of their home in Villepin, France, for four years, until the end of the Holocaust. She lost the privilege of using her native French Sign Language to communicate during her four years in hiding with her mother and sister while her baby daughter was taken care of by a non-Jewish family outside the basement. She lost her Deaf husband, who was shot by a Nazi soldier who yelled at him to stop as he ran from a concentration camp; this was witnessed by other Deaf Jewish survivors (Luba Gutman Rifkin and Esther Weisel, personal interview, 2019). She was another Deaf Jewish survivor who kept her silence and pretended to Nazi soldiers to be a hearing person for the entire Nazi era. With the help of her fellow prisoners, she avoided the death march. She had no communication with any of her fellow prisoners other than a few words such as visual gestures and signs.

Another Deaf Jewish survivor, who was a Hungarian named Peter Farago, was saved by a fellow, hearing, prisoner named Pavel. Pavel was a Polish boy who was a child of Deaf parents. Pavel guided Peter during that period. I was very moved by Farago’s narrative about how he survived during that period with the great help of Pavel. Peter stated, “He took my hand, he said, ‘Don’t sign.’ I was very scared; I was wondering why I shouldn’t sign. He said again, ‘Don’t sign…. Be quiet.’ He was holding my hand as my brother and he said, ‘Just relax’” (Ryan and Schuchman 206).
That was how he survived until the end of the Jewish Holocaust. I admire his silence, but he was still deprived of his language during the Nazi era.

Another Deaf Jewish survivor, Morris Field, spoke to me about the dangers of using sign language in the camps. I personally interviewed him at my home while I was in high school. I am privileged that he told me his story, which he never shared with anyone else. Morris was fortunate to have stayed alive through five horrible concentration camps by pretending to be a hearing person and not using sign language. He saw a group of Deaf prisoners in the corner communicating with each other by using sign language, and he argued with himself about whether he should join them or continue pretending to be a hearing person. He decided not to join them and continued to act hearing. He realized the next day that his fellow Deaf prisoners had disappeared and never returned. He got the impression that they had all been killed (Vo). He once said to me, “I don’t want to share my horrible stories to anyone, even my family.” His children asked him to tell them the stories anyway, but “I told them; not even a whole sentence, they cried and said stop!” (Morris Field, personal interview, 1978).

The last two Deaf Jewish survivors to be discussed in this paper are Anna Vos-Van Dam and Lea Halpern-Huysmans. They were childhood friends in Antwerp, Belgium, who happened to be friends of Hava, my Deaf aunt living in Israel. They shared their different kinds of experiences during the Jewish Holocaust (Hava Savir, WhatsApp communication, 2019). When a Nazi soldier came by, asking for any Jews in the house, Lea snuck away with her mother from the roof of their home after being in hiding for a year. Lea’s neighbor protected them, saying, “No Jewish people in this house.” Lea and her mother found a place to stay for another two years, until the end of the Holocaust.

Unlike Lea’s experience in hiding, Anna went through a very difficult time during the Nazi era. Nazi soldiers caught her and her family when she and her family were disoriented and tired of running. One German prisoner saved Anna’s life by forcing her to remove the badge labeling her as Deaf (Taubstumm). She was afraid to remove the badge, concerned that a Nazi soldier would shoot her for removing it, but she finally agreed to remove the badge quickly and behaved like a hearing prisoner, although she suffered beatings and other cruelty until the end of the war (Zaurov and Gunther 243–49).

I researched a director named Israel Sela, who worked with Hungary’s American Jewish Joint Distribution Committee on a special project to assist Deaf Jewish Holocaust survivors. He was a child of Deaf parents who lived in Israel and helped Deaf survivors of the Holocaust to find new houses and jobs and to get counseling. Sela was a very good friend of my mother; he grew up with his parents once my mother landed in Israel before moving to the states in 1950. He stated, “The [Deaf] survived the war as broken pieces” (Herman). In other words, Deaf Jewish
people experienced a lot of pain and suffering during the Holocaust, but they eventually ended up in Israel and received a lot of support from Sela’s parents and the Israeli Deaf community to recover from the devastating war in Europe.

I want to honor my dear Deaf mother, who avoided concentration camps with her Deaf sister after their hearing mother came and took them away from Vienna School for the Deaf in Vienna, Austria. The school was only for Catholic children; the only two Jewish deaf children were my mother and aunt. She chatted with Nazi soldiers who camped in the gym of that school. No one knew about my mother and aunt being Jewish children while they were at school.

When my grandmother came and fetched my mother and aunt, they did not understand what was happening. They had stayed at the school during breaks, such as holidays and summers. When I asked my mother why she could not stay with my grandparents during breaks, she said, “I wanted to socialize with Deaf children who communicate in the same language as me, unlike not communicating with my parents.” My mom and aunt did not have a chance to say good-bye to their Deaf friends; they escaped without suitcases or possessions. They did not know why their mother had fetched them away from that school, where they loved to learn and socialize with their friends. The Nazi era deprived them of their beliefs and education. They did not carry any passports with them, only money to bribe guards to get them through the border lines to Italy, where they stayed for a month to wait for the ship to Israel to meet my grandfather (Gutman Rifkin, Luba, personal communication, n.d.). I am grateful for my grandparents saving my mother’s and aunt’s lives!

Conclusion

My research shows that the Nazi regime deprived persons with disabilities, such as Deaf Jewish survivors, of their culture, language, values, beliefs, religion, and heritage. My father’s maternal grandmother’s entire family was lost to the Nazi era. My paternal grandmother and her cousin emigrated to the United States when she was sixteen years old, but she left her big family in Russia. Many more besides lost their lives to the Jewish Holocaust.

Historically, people often use the quote “Remember the Alamo” to show respect for tragic events. I strongly feel that the Jewish Holocaust deserves equal respect. I personally say, “Remember the Jewish Holocaust” to show respect for the pain and suffering of people with disabilities, including Deaf Jewish survivors. Deaf Jewish people survived by being silent, having no communication with anyone inside or outside the concentration camps. The pain that eugenics inflicted on Deaf people during the Nazi era continues to have an effect on Deaf survivors as well as on their families and friends in close-knit Deaf communities. Reflections on these horrors are necessary for Deaf communities everywhere because today’s technology and medical
advances sadly make it possible for Deaf people to become extinct within the next few generations. Having difficult conversations is necessary for protecting Deaf people from modern eugenics. Diversity is important in today’s world, and the Deaf form one of the many groups that contribute to diversity.
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THE PHYSICS RESEARCH PROBLEM: A BRIEF ANALYSIS OF FINANCIAL AND ADMINISTRATIVE FACTORS RELATING TO RECENT TRENDS IN RESEARCH OUTPUT IN PHYSICS IN INDIA

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Abstract

This paper attempts to view and interpret data from various sources such as the World Bank database, research and development (R&D) reports by the Indian government, Nature Index, Scopus index, and others to examine the effect that the various government financial initiatives and administrative features and policies concerning funding of institutions of higher attainment have had on India's research output in the field of physics. In addition to this, the inconsistent standards of funding across various institutes of higher education, investment in R&D activities made by other nations in comparison to India, the share of physics research output of various countries in comparison to India, the concentration of government funding amongst certain higher education institutions, and the ineffectual policies relating to scientific research over the past three decades are all touched upon to provide a more comprehensive image of the financial and administrative issues that have contributed to recent trends and slow growth in physics research in India.

Keywords: physics, research, administration, funding

Introduction

Research lies at the foundation of all of a nation's industrial, scientific, cultural, and financial endeavors. Research is the procuring and analysis of knowledge without which advancement and progress are simply not sustainable and/or viable. Physics is the most fundamental of the natural sciences, and with the recent and rapid dilution of the boundaries between the sciences, research in the field is more impactful now than ever. When reading about physics research in India, one runs into a lot of contradictory statistics and facts all pointing in opposing directions. In 2018, India was 12th in the world in terms of number of articles published in physics, at 614 articles published in a year (Nature, 2021). In the same year, according to the World Bank database, India had about 420,000 researchers in total; in comparison, Germany, a country whose population India exceeded by 20 times, had 432,000 researchers in total in the same year (World Bank, 2018). Despite
periodic advancements in the field of physics, India has come to be almost universally recognized for its frugal approach to scientific endeavors as far as administration is concerned, as well as being one of the lowest investors worldwide when it comes to research and development (R&D). This paper aims to analyze physics research in India through two main points: (1) state funding and financial aid to R&D organizations and institutes of higher attainment in India, since most institutions in India depend greatly on government resources for funding, and (2) administration and policies regarding scientific research in the nation.

Analysis of State Funding to Research and Development Organizations and Institutes of Higher Attainment in India

![Figure 1. India’s Rate of Investment in R&D Activities (% of Total GDP)](image)

In India, most research in the field of physical sciences is funded by the government. Over the past decade, the amount of finance afforded to R&D activities in India has remained nearly the same: 0.7% of the nation’s annual gross domestic product (GDP; Government of India, 2019, p. 17). See Figure 1. This is in contrast to nations such as Poland and Germany that, having populations and GDPs much smaller than India’s, still invest at least twice that percentage of their GDPs. In 2019, India’s GDP was 2.87 trillion U.S. dollars (USD), making the grand sum of money...
dedicated to R&D activities 19.6 billion USD, of which 82.2% was concentrated among the government research agencies of the Defense Research and Development Organization, Department of Space, Indian Council of Agricultural Research, Department of Atomic Energy, and Council of Scientific and Industrial Research, leaving the remaining 17.8% (3.4 billion USD) to the 1,013 recognized universities in India (Government of India, 2019, p. 12). If we were to assume that all this money were to be divided equally among all these universities, we would get a sum of about 3.4 million USD per university. The average number of colleges per university in India is 37.5 (not including autonomous colleges). If a university were to divide the 3.4 million USD among all of its colleges equally, each college would get a sum of 90,666 USD, to be further divided into research for the arts, humanities, and sciences, and still further to be divided into specific disciplines of physics, chemistry, history, media studies, music, and so on.

Figure 2 is a graph plotted with reference to the data in Table 1, showing the total share of papers in the physical sciences published by several countries from 2015 through 2021 according to the Nature index (2021), which annually analyzes publications from 82 journals of international repute. (Nature only includes physics in the category physical sciences, as both chemistry and earth sciences have their own separate categories.) We see in the graph that although India has seen a growth in share of papers published worldwide every following year, the rate of growth has still been an unimpressive 3.18% in the past seven years. If we refer to Table 1, we can clearly see that India’s share has still been quite low in comparison to that of countries such as Italy, the United Kingdom, and Switzerland, all of which have a combined number of nearly 460,000 researchers, only slightly higher than India’s 420,000. One very important and noticeable reason for this inconsistent relationship between number of researchers and total share of papers published is that of those three nations, Switzerland (a country whose GDP India exceeds by more than three times) alone invested 24 billion USD (23 billion CHF) in R&D activities in 2019, compared to India’s 19.6 billion USD in the same year (SwissInfo, 2021). This figure clearly represents the lack of monetary resources available to researchers in India.
Figure 2. Comparison of Research Share in the Sciences by Country

TABLE 1. Share of Research Papers per Country

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<td>1,491.03</td>
<td>1,443.96</td>
<td>1,401.32</td>
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</tbody>
</table>

In the next section, we view the administrative features and policies relating to institutes of higher education and scientific research in India and then analyze what effect they have had on research in the field of physics.
Administrative and Policy-Based Features of Indian Academics Relating to Scientific Research

In India, as in most countries, academic institutions provide the bulk of the research output. Administration relating to these institutes of higher education is rather complex. India has four types of universities primarily recognized under the University Grants Commission (UGC). The first of these are central universities—i.e., universities placed under direct control of the central government and that include certain “institutes of national importance,” such as the Indian Institutes of Technology (IITs), governed under the Institutes of Technology Act of 1961, and the Indian Institutes of Science Education and Research, governed under the National Institutes of Technology, Science Education and Research Act of 2007. Second are the state universities, a state university being one that is placed under an individual state or union territory government and that includes within it further affiliated autonomous and semiautonomous colleges, each with a varying degree of control over its own activities. Third are deemed universities, which are universities granted a status of autonomy by the Department of Higher Education and are governed under Section 3 of the UGC Act; the esteemed Indian Institute of Science (IISc) is an example. Finally are private universities—i.e., universities run by private organizations governed under the UGC (Establishment and Maintenance of Standards in Private Universities) Regulations of 2003.

There are a few immediate problems with this framework. The most obvious one is the fact that all these institutions are governed under various schemes of vastly differing characteristics. This makes regulation of funds and resources for research a difficult task. This fairly nonuniform and biased division of funds to institutions of higher education has gotten more pronounced in the past few years. In 2018, for example, more than 50% of the government funds provided to institutes of higher education in India went to the IITs, National Institutes of Technology, and Indian Institutes of Information Technology. In total, 79 institutes that harbor only 3% of the total student population of the country received more than 50% of the government funds while the rest of the 865 recognized institutes of higher education in India harboring 97% of the student population received the remaining funds (Sharma, 2018). Even the prestigious IISc, the crown jewel of research in the country, had its funding cut by more than half by the government in the same year (Sindwani, 2019). This has led to a vast majority of the research population of the country being deprived of essential resources such as access to state-of-the-art laboratory equipment and wider access to elite research journals.

Another problem is that all the numerous institutes of higher education in the country which conduct scientific research with widely varying funding, resources, and student populations have essentially been functioning within the framework of four policies since the late 1950s. These four policies are the Scientific Policy
Resolution (SPR 1958), the Technology Policy Statement (1983), the Science and Technology Policy (STP 2003), and the Science Technology Innovation Policy (STIP 2013; Kaushik et al., 2020). Although these policies differ in name, they haven't had a flattering effect on the physics research output of the country across their respective implementation periods. To illustrate this, let us consider two 7-year periods, from 1993 to 1999 and from 2016 to 2022 (Table 3). The research output in physics comes to a combined total of 20,525 papers published from 1993 through 1999 for India (Gupta & Dhawan, 2009) but just 4,508 from 2016 through 2022 (Nature, 2021). One must keep in mind that the period from 1993 through 2022 covers the lifetimes of almost three of the four policies mentioned above and a nominal GDP growth rate of nearly 10.4%. (Note that the data taken from the paper by Gupta and Dhawan are from the Expanded Science Citation Index and the latter data are taken from the Nature Index, so there can be possible discrepancies and more reading on the topic is recommended.)

<table>
<thead>
<tr>
<th>Year</th>
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<th>Year</th>
<th>No. Papers</th>
</tr>
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</tr>
<tr>
<td>1994</td>
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<td>2020</td>
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</tr>
<tr>
<td>1999</td>
<td>3,223</td>
<td>2022</td>
<td>750</td>
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<tr>
<td>Total</td>
<td>20,525</td>
<td>Total</td>
<td>4,508</td>
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</table>

**Conclusion**

This paper briefly reviewed various administrative and financial aspects in relation to physics research output in India. We have seen that a combination of complex reasons has led to the recent net downward trend and relatively slow growth in physics research output in the country over approximately the past decade. More strategic and focused administrative and funding policies need to be incentivized and applied by the various government agencies in charge of higher education, research, and distribution of the nation’s annual budget. Inspiration needs to be taken from
countries like Germany in terms of policies and financial frameworks for distribution of funds to organizations involved with research and institutes of higher education, and a more holistic and pragmatic way of administrating scientific research must be undertaken, in opposition to the more generalized manner in which research in the sciences has been dealt with by administrative bodies in the past few years. The government needs to realize that physics, being the most fundamental of the physical sciences, is at the foundation of advancements in technology, engineering, architecture, agriculture, and many other fields of critical importance to a nation’s development and that by limiting funds for research in the field and with haphazard administrative planning, the future of the great economic and engineering projects undertaken by the nation in the past decade may lie in serious jeopardy.
References


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Sharma, K. (2018, July 30). IITs, IIMs, NITs have just 3% of total students but get 50% of government funds. *The Print*. https://theprint.in/india/governance/iits-iims-nits-have-just-3-of-total-students-but-get-50-of-government-funds/89976/?amp


HIGHER EDUCATION STUDENTS’ PERCEPTIONS OF ONLINE LEARNING DURING THE COVID-19 PANDEMIC

ABBY O’BRYANT, UNIVERSITY OF HAWAI’I AT Hilo
MENTOR: KATHRYN BESIO

Abstract

This article focuses on the impacts of online learning during the COVID-19 pandemic on students at the University of Hawai’i at Hilo. Using survey data (n = 64) and semistructured interviews with currently enrolled students (n = 17), key impacts of online learning on the student body were analyzed. The respondents reported disengagement in lectures, negative impacts on their mental and physical health, negative thoughts about dropping out and transferring, apprehension about the quality of course content, and dissatisfaction with tuition. The paper utilizes qualitative data analysis to report the findings.

Keywords: online learning impacts, COVID-19, university students, qualitative research, disengagement

Introduction

In the spring of 2020, COVID-19 swept across the world, and disruptions to university students’ education were a critical concern to university administrators, faculty, students, and their families. The University of Hawai’i at Hilo (UH Hilo) is a public four-year university on the Island of Hawai’i with a small student body (2,977 students). The university’s student-to-professor ratio (1:15) allows for development of in-depth relationships between students and faculty. Many students appreciate the one-on-one attention they get from their professors, which enriches their educational experience with ample feedback. All of this changed in 2020 as students on spring break had their break extended, and although students were thrilled to have a long break, their classes soon after moved directly online, using Zoom and the university’s learning management system (LMS). Students living in on-campus housing left the dorms, abruptly displaced and sent home to their families, forced to endure lockdowns in off-campus student housing. What had been an educational
model of close interactions became one marked by student isolation and distance. One UH Hilo student interviewee, Lisa,¹ said,

> Immediately, everyone moved out of the dorms. So, I packed up all my stuff in one night and flew back home, which was so crazy. And then two days after that, school started again. It was all online, which was weird because Zoom was like not a thing that anyone had any knowledge of. And then all the sudden, “bam,” you’re on Zoom 24/7, all you know is Zoom, and it was weird…. You’re staring at a computer screen, and I moved back in with my parents.

It was not solely moving away from campus that was disruptive. Lisa’s description captures another major initial challenge: the transition to online learning that extended to January 2022. Because this transition happened unexpectedly and rapidly, students were untrained and unprepared for online learning protocols. Many students did not know how to use Zoom and had to learn it without assistance. Moreover, professors untrained in online teaching used the university’s LMS and Zoom to conduct their courses in ways that were new to them and, to students, seemed inconsistent between courses, leaving students confused and frustrated. Online courses left students isolated from instructors and one another after being used to a system that had relied on small class sizes with considerable faculty input.

In this paper, I examine the impacts of online learning, focusing on a wide range of issues that include students’ mental and physical health, academic performance, and quality of life for the student population at UH Hilo. Isolation from peers and faculty and isolation at home contributed to students’ anxieties and frustrations during the pandemic. I draw upon three data sets collected by students in my Qualitative Research Methods course to examine students’ responses. This research is based on autoethnographic narratives, semistructured interviews, and a short survey of UH Hilo students who were asked to share their experiences and perceptions over a nearly two-year period of online education. Students conveyed their challenges, concerns, and apprehension about the future.

The findings from this research are valuable, as they draw from students’ perceptions over a two-year period of the pandemic. Our study heard from students who reflected on the two years of pandemic learning. Studies conducted during the pandemic’s peak, when there was more uncertainty about how pandemic changes to education would play out, inform this research. I focus on students’ reflections, bringing together past and present as students move forward in a changing educational landscape. Our fellow students’ responses made those of us who did the

¹ All interviewee names in this paper are pseudonyms.
research realize how connected to each other we were by our similar perceptions, although we all felt isolated from one another. In spite of that isolation, concerns that may have seemed only ours were shared by university students all over the world who experienced similar challenges.

Research Context

Numerous studies focus on students’ responses to academic and emotional challenges during the COVID-19 pandemic. Students of all ages and levels were sent home to meet public health needs until classes could resume online (Chaturvedi et al., 2021; Cui et al., 2022; Gothwal et al., 2022; Plenty et al., 2021; Ratner et al., 2022; Shetty et al., 2022; Xiang et al., 2020). Research is beginning to build a profile of the impacts on the educational, social, and emotional fallout of learning online for university-level students during the pandemic. Summarized below are some of the relevant findings from international studies about university students during the pandemic that inform my analysis.

Twenty percent of UH Hilo’s students are first-generation students (UH Hilo IRO, 2023), who often face a wider range of challenges than do their peers. A study by Scharp et al. (2021) identified student groups disadvantaged in the climate of online learning, focusing on first-generation students. The authors identified seven triggers among the participants, including inadequate financial support and university infrastructure, reduced face-to-face communication, changes in campus events and activities, canceled internships and opportunities, motivation problems, and complications of combining school and home life. These student participants reported missing out on the college experience, lacking interaction with peers, and having less support from faculty, as well as problems with procrastination and motivation, and difficulties with separating the home environment from the classroom. Students repeatedly noted that they felt they were missing out on a college experience of building friendships in the classroom and in extracurricular activities. Like these students, UH students had precarious housing conditions, unreliable access to the internet and/or transportation, and poor-quality laptop computers used for class. For all college students, the isolation of online learning compounded a range of preexisting challenges, perhaps contributing to increased anxiety reported by students from all backgrounds.

Li and Che (2022) examined college students in China in response to their education moving online because of the pandemic. Their study highlights an increase in anxiety among the student population and decreased attentiveness due to social media distractions. There were 622 respondents representing college students from 30 regions of the country. As a general trend, those in their first and sophomore years struggled more academically with the change to online learning than did higher-level students, and male and female subjects performed the same academically. The
authors found a significant decrease in academic performance among those who studied at home, in comparison to those who studied in an office or studio. Physically, 79% of respondents reported eye strain, while cervical stiffness affected about 30% of the students. There was a strong trend that the students who did their schoolwork at home had more mental and physical problems. These findings are similar to effects reported by UH Hilo students, who reported increased anxiety and a decline in their physical activity due to studying at home, citing similar physical ailments. Studying at home led to a more sedentary lifestyle with lockdown restrictions that limited students’ mobility. Many UH students reported that studying in their homes and bedrooms was detrimental to their focus because of distractions, leading to overall disengagement with learning.

Branchu and Flaureau’s (2022) study of French higher education examined disengagement in students’ online learning. The researchers use the term disengagement to cover anything from dropouts and disinterest to educational exclusion, including personal student and institutional failure. The authors discuss the inequalities in living conditions and in access to study spaces, as well as the blending of home and school, making it difficult for students to turn off “school mode” and rest, eat, and sleep reasonably. Participants in their study expressed concern with online learning, including that they were not held accountable and could turn their cameras off and not pay attention (Branchu and Flaureau, 2022). Other participants in their study needed validation and recognition from their professors, which was lacking in the online format, and students reported depression due to a lack of interaction with faculty and other students. These findings align with ours and are echoed by UH Hilo students who turned off their screens, tuning out during lectures because they were not held accountable and choosing instead to multitask. Unlike in a face-to-face classroom, where other students’ presence holds them accountable for participation, with cameras off, students cooked food, engaged in social media, or napped during the lecture instead of paying attention.

Some UH students attributed their lack of engagement to poor-quality online instruction, becoming increasingly dissatisfied with paying full fees for what they perceived was poor or inconsistent instruction between classes. During the pandemic and in response to online learning, students of South Korea (Generation Z) took it upon themselves to pursue lawsuits with the help of social media to get tuition refunds, as they also perceived their courses to be of low quality (Kang and Park, 2022). According to Kang and Park, students argued that the quality of their education was akin to learning through YouTube videos, which was also heard from interviewees at UH Hilo. One major insight of Kang and Park’s study was that online courses needed to improve interactions and provide timely feedback from professors regarding students’ questions and assignments and that improvements would increase satisfaction with online courses. Many students at UH Hilo reported similar
frustrations with online courses and felt resentment that tuition costs were the same for online and in-person classes.

Pandemic learning affected some students more than others. First-generation students may have suffered more from separating from other students and faculty, but many UH Hilo students reported that isolation led to feelings of disengagement, which induced a cycle of avoidance of their work. Student isolation may have led to student disengagement with their peers, faculty, and courses, leading to resentment about course quality, overall university experience, and tuition costs.

Methodology

To conduct this research, students of the course Geography 382, Qualitative Research, used three primary methods to collect data: autoethnography, semistructured interviews, and a short survey. Our research began in January 2022 and ended in April 2022. We began our research by writing autoethnographic reflections about our experiences with COVID-19 and online learning through Zoom. Our autoethnographic research helped us identify key themes in student experiences to devise interview questions around, which would further our understanding of the student experience during the COVID-19 pandemic across a wider range of students. Next, we completed the university’s required research ethics course, Human Subject Research and Information Privacy and Security, submitting our project proposal to the institutional review board.

Using snowball sampling, each student researcher recruited two interviewees ($n = 22$), who were compensated with a $25 dollar payment. We felt that the interviewees’ time was valuable and did not wish to place additional burdens on them for their participation. Each interview lasted approximately one hour. The semistructured interviews were audio-recorded and then transcribed using the Otter.ai program. We corrected transcriptions, which we then coded and analyzed, ending up with 17 usable interviews. In May, I used the CAQDAS Dedoose to analyze the interviews, in addition to manual coding.

Finally, in addition to the interviews, student researchers created a Google Form questionnaire. The survey was posted to students at the University of Hawai‘i at Hilo over a two-week period (April 18–May 2). We used our social networks to solicit respondents, and 64 students completed the survey. The following categories were identified as common problems among UH Hilo students: impacts on mental and physical health, student dropouts and/or transfers to campuses offering in-person classes, quality of online class content and tuition prices, disengagement in online classes, and impacts on motivation levels.

Of the 64 survey respondents, 50% had started at UH Hilo prior to the pandemic and 50% had started at UH Hilo during the pandemic. Their ages ranged from 18 to 49, but 74.5% of the survey respondents were 18–23 years old. At the time
of the survey in spring 2022, 65.5% of the survey respondents were juniors and seniors (34.4% juniors, 31.3% seniors) and 65.6% were students working part-time or full-time on top of their university course load. Most of the survey respondents were female (82.5%), and 84.4% of survey respondents lived off campus at the time of the survey.

Interview participants were primarily 19–23 years old (89.5%); two older students were both 28 years old at the time of the interviews. Of the interviewees, 57.9% started at UH Hilo prior to the pandemic. Juniors constituted 68.4% of interviewees, along with two sophomores, two seniors, and two graduate students. As with the survey respondents, most of the interviewees were female, representing 73.7% of the sample. Table 1 shows the demographics of the student interview participants.
Table 1. Interviewee Demographics

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Class standing: First-year (F), Sophomore (So), Junior (J), Senior (S)</th>
<th>Major</th>
<th>Started at UH Hilo before the pandemic</th>
<th>Received loans, grants, scholarships, or other aid to attend UH Hilo</th>
<th>Age</th>
<th>Sex</th>
<th>Gender identity</th>
<th>Ethnic identity</th>
<th>First language</th>
<th>On- or off-campus housing</th>
<th>Living with if off-campus</th>
<th>Shared computer/laptop with family members or friends</th>
<th>Had reliable internet at home</th>
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<td>J</td>
<td>Business management</td>
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<td>Y</td>
<td>20</td>
<td>F</td>
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<td>Hawaiian, Filipino, Spanish, German</td>
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</tr>
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<td>J</td>
<td>Chemistry/Pharmacy</td>
<td>Y</td>
<td>Y</td>
<td>20</td>
<td>F</td>
<td>Female</td>
<td>Filipino</td>
<td>English</td>
<td>Off</td>
<td>Family</td>
<td>N</td>
<td>Y</td>
</tr>
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<td>J</td>
<td>Marine science</td>
<td>Y</td>
<td>N</td>
<td>20</td>
<td>F</td>
<td>Female</td>
<td>White</td>
<td>English</td>
<td>Off</td>
<td>Roommates</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Ailine</td>
<td>S</td>
<td>Marine science</td>
<td>Y</td>
<td>Y</td>
<td>22</td>
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<td>Female</td>
<td>White</td>
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<td>F</td>
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<td>Italian American</td>
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<td>Alex</td>
<td>J</td>
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<td>21</td>
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<td>white</td>
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<td>Pohnpeian</td>
<td>Off</td>
<td>Roommates</td>
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<tr>
<td>JR</td>
<td>J</td>
<td>Fire science</td>
<td>Y</td>
<td>Y</td>
<td>20</td>
<td>M</td>
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<td>English</td>
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<td>Asian</td>
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<td>J</td>
<td>Major</td>
<td>Yr</td>
<td>Yr</td>
<td>Age</td>
<td>Gender</td>
<td>Race/Ethnicity</td>
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</table>
Analysis

Students’ Perceptions of Their Mental and Physical Health

In this section, I draw on the interviews and surveys to analyze the impacts of online learning on UH Hilo students during the pandemic. Figure 1 shows survey responses to the Likert scale question about students’ perceptions of their physical, mental, and social health since March 2020; 46.9% of the respondents reported that they perceived a change for the worse in their physical health (agree and strongly agree). Most of the respondents reported a perceived change for the worse in their mental health, totaling 67.2% (agree and strongly agree). More than half (57.8%) reported a change for the worse in their social interactions since the start of the pandemic. These results are consistent with findings from Li and Che (2022) and Scharp et al. (2021).

Our interviewees and survey respondents noted a decline in their mental and physical health. Mental health concerns were prevalent among the students during the pandemic for a range of reasons, yet UH Hilo students reported lasting social anxieties in the late stages of the pandemic, particularly concerns about an anticipated return to in-person classes. One student responded to the online survey by saying, “I have noticed myself becoming more nervous in social settings since the pandemic, probably because I stayed home in isolation for so long. However, I do like
being able to see more people again; it just feels more nerve-racking than before.” Many students shared this late-pandemic social anxiety that may have been a result of isolation from healthy interactions with other students.

We offered students the opportunity to tell us about anxieties in their own words with an open-ended question (Survey Question 5). Many of them cited feelings about anxiety, happiness, stress, and other emotions. They noted concerns about weight gain and loss, stiff necks and backs, sleeping problems, and eye strain. One respondent said about their physical health, “Lately, I’ve had to eat fast food to fit my schedule. This has caused me to gain a few pounds in weight. I also have noticed this affecting my mood and sleep schedule.” Students reported eating processed and low-quality foods that were quick and easy complements to their lifestyles, resulting in weight gain. In contrast, some students reported weight loss because they were not prioritizing their nutrition at this time or because they had more anxiety and stress. Respondents reported that online learning at home affected their physical health because of less daily movement and exercise. Because their classes were all conducted on screens in their homes, they didn’t have to leave their homes and walk around campus to get to class. Like the respondents in the studies of Branchu and Flaureau (2022) and Li and Che (2022), UH Hilo students felt physical, emotional, and social impacts from online learning.

Students’ mental and physical health seemed to decline because of lack of on-campus social interactions with peers. In interviews, students described a range of anxieties that resulted from Zoom interactions specifically, which I had not read about in other studies. More than one student interviewee said that looking into the camera and seeing everyone in the class looking directly back at them in a typical synchronous online Zoom classroom was unnerving. Ailine said,

When you’re in a classroom, everyone’s sitting in rows and you’re all facing a board, you’re all facing one way, face-to-face with the teacher. You have people around you that you can talk to, people you can talk to before and after class. When you go to the online format, social anxieties come out. When you have a camera on, anyone can see your face. When we first came on Zoom, I’d be clicking through and seeing people’s faces and stuff. That’s not something you would do when you’re in person, you know, you don’t have face-to-face with 20 other kids.

As Ailine pointed out, the classroom spatial dynamics and interactions are completely different online compared to those in face-to-face classrooms. The new social space of the synchronous online Zoom room upended the traditional orientation of students looking forward to their professors. In the Zoom room, they looked at themselves and into the faces of their classmates, which was uncomfortable. Additionally, they felt they were letting others into the private spaces of their homes and may have been unable to blur or use a background filter, thus
revealing these spaces to other students involuntarily. For students living with families or in communal or cramped living spaces after being ousted from campus, this was particularly difficult.

Interviewees struggled with people seeing their private home environments. They also had difficulty with their private home spaces becoming part of the classroom background, as each student stared at one another in the Zoom squares. Romano changed his home space to make it more like a classroom:

I had to get a desk, and I feel so much better. I feel keeping it in my room helps just because your room is where you do your hibernating, you know, you sleep and just get dressed and like, it’s your space. And so, I feel like doing it in my room was private, you know, just me. Because I feel like we’re also bringing our private lives now, in front of people like that was wild to me, people are literally seeing my bedroom. That’s weird, you know, but then also, there wasn’t availability elsewhere in the house and I don’t think I’d really want to be anywhere without a closed door, like I needed, like, everything blocked off to make it feel like I could learn effectively and be focused.

As Romano stated, sharing his home spaces with other students didn’t happen before online learning, and he did not have anywhere else in the house to study. Many students felt uncomfortable that the private and intimate spaces of their bedrooms were being viewed by strangers on video through Zoom.

Another interviewee, Melanie, noted that many students felt more uncomfortable speaking in the online format, compared to speaking in an in-person classroom. She said, “I’m a lot more confident in the classroom to just ask a question. But if it’s online, it’s a little more intimidating to press unmute. Your little face box gets highlighted, being the only one talking.” Furthering that point, Paul brings it all together:

It is kind of uncomfortable. I have a set place where I turn my camera on. I don’t use it in any other location. I don’t like to. I do feel bad for people that have kids or pets that will bark or get in the camera or something like that. Yeah, it’s a very weird thing because you have to invite people into your house when you turn on your camera.

It is clear from the feedback provided that the students feel that the classroom dynamics online are very different from those of an in-person classroom. As Paul said, many students had children or pets that were not part of their education prior to online learning and caused distractions or embarrassment in the Zoom classroom. Students struggled with separating their home environments, meant for private activities, and the classroom, meant for lectures, assignments, and studying. Yet another new point made by our interviewees was that they were uncomfortable staring at one another on camera, which made speaking up while sharing their home environments online that much more difficult, leading to disengaged learning.
Disengagement in Online Class

During the pandemic, much of the online learning conducted at UH Hilo was through Zoom. Zoom social anxieties, such as staring directly at the camera and turning the camera off, led to a less-fulfilling classroom environment for both students and professors. Class discussions allow students to interact with other students and their professors, creating a more interactive learning environment. Students retain more information learned in class by participating in class discussions, leading to better understanding and exam preparation. In the survey data, we found that 87.5% of students were taking their online classes in their bedrooms or dorm rooms. When students were asked if they had an easy time separating their schoolwork from their home life, 34.4% responded with not at all and 21.9% responded with less than half the time. Compounding the lack of separation and adding to disengagement were students’ blank screens. Students turned their cameras and microphones off. Though many professors requested that people turn their cameras on, it seemed to be the group consensus to refuse, leaving classrooms silent when professors asked for questions or discussion. This left students who had their cameras on feeling alone and isolated while others had their cameras off. Many students disengaged when given the option to turn on their cameras. The dilemma of students refusing to participate in class exacerbated the issue of feeling isolated, and students lacked a sense of community with their peers. Professors tried to put students in Zoom breakout rooms, hoping students would engage when they were alone in the breakout rooms, but many students continued to refuse to speak and kept their cameras off in group activities, leaving students feeling even more disconnected from their peers.

Our interviewees provided insights about the blank-screen phenomena. When Elizabeth was asked if she felt nervous talking to people, she responded, “I do because people turn off their cameras and it makes me feel awkward. Everybody just has their cameras off and it’s like two people with their cameras on.” Kate’s experience echoes Elizabeth’s discomfort. She said, “It was pretty lonely and kind of sucked a lot of the time. I know about ten people, and I sat in online class all the time with everyone’s cameras off, so I still don’t know that many people because that has been my reality at school here for the past couple years.” Dareen said that she would prefer the in-person classroom because it holds her more accountable to pay attention: “It would probably be better for me to be more productive to go in-person and be forced to listen while they’re looking at you, because you know, on your computer, you can just go do whatever, like, leave it there.” Jay also felt that it was hard to stay productive in the online format because of distractions at home. He said, “It’s an option to just turn off the camera and not even go to class and just knock out on the bed. Some classes are during lunchtime, like I’m going to want to make a sandwich and make a drink like in the middle class.” Many students found that being at home while attending a class led to them ignoring the lecture and doing things they normally would do in
their homes. When in a classroom on campus, students would not have the option to take naps or make lunch but would be fully focused on listening to the professor.

Breakout rooms were no better for student engagement. When asked about group breakout rooms, Jay said, “Breakout rooms have to be the worst thing for me! Especially if you have a group that doesn’t participate … all blank screens, it’s like you just sit there and you don’t really know what’s going on.” Jay’s concern about the lack of participation in Zoom courses is like Kate and Elizabeth’s experience with students refusing to contribute to conversations and keeping their microphones and cameras off in class and breakout rooms. The lack of participation and contribution online leaves students feeling even more isolated from their peers.

Disengagement is prevalent in online courses; many students are multitasking and not paying attention to the lecture being conducted. This leads to lower quality of education than provided by an in-person class. Students perceive that it is easier to pay attention in a physical classroom because they want to show respect to their professor and are “forced to pay attention,” but students struggle with self-discipline to engage when left alone in their bedrooms to attend class. Disengagement during class lectures makes it very difficult for students to retain the information being taught and to succeed in their courses.

Impacts on Motivation Levels

Many students reported decreased motivation levels in response to online learning during the pandemic. In the survey, 60.9% of respondents reported decreased motivation and 73.4% reported decreased concentration. Unsurprisingly, decreased motivation and concentration led to increased procrastination (62.5%). Many students attributed their lack of motivation to not being held accountable by their professors in class or reported that combining their home and school spaces led to an unfulfilling social life in the classroom that affected their schoolwork. Others said it was boredom because of the Zoom lecture format. Melanie said the abrupt transition and lack of training in online learning led to low self-discipline: “Technology is a learning curve. I did not know how to do anything online, so that was tough. Then it’s just more difficult to be motivated and stay focused on Zoom because you’re not really held accountable for paying attention and not procrastinating, stuff like that.”

Aline said that before the pandemic happened,

I was a go-getter type of student. I was really excited to learn, and I wasn’t just going to school to get a degree, I was going to school to better my understanding of the ocean. Now, especially as a senior, I’m just ready to be done. I can’t do this online, back-and-forth stuff anymore. I just want to be done.
Similarly to Ailine, Elizabeth was a student who normally excelled academically and felt that her motivation dissipated during the pandemic because of the online learning format. She said, “I used to be really on top of school my freshman year and my sophomore year, and then my junior year, I was like, ‘I’m over it.’ I don’t like the learning environment.” Desiree felt her motivation was more affected by lack of socialization, being isolated indoors, and being bored without her normal social schedule:

I like adventure. I like social activities. COVID has taken away a social life. The fact that I’m new here and can’t meet new people because of COVID. I am not motivated in school, and I am tired of sticking indoors. The fact that I’m always home, bored out of my mind, keeps me less motivated.

Lack of motivation was a common complaint among interviewees. Kate had had ambitions to go to grad school following her undergraduate education, but the online experience has changed her mind about her goals. “Online school has made stuff so incredibly hard that the thought of going back to school after I graduate is unbearable,” she said.

Students attributed their lack of interest to faculty not holding them responsible, and they wanted faculty to demand more from them, such as turning on their cameras. JR said, “It’s gotten worse, in fact, procrastinating. And like I said, it’s the self-discipline of being in-person. It’s a lot easier when you have a teacher face-to-face.” Similar to JR and Melanie, Romano felt that problems with motivation and procrastination surfaced because of not being held accountable by the professor online as they would be in-person:

Procrastination for sure (has declined). I feel as though I pushed the limits on some things. Not seeing somebody kind of took away the accountability by not having the instructor face-to-face. You know, I feel like accountability to an instructor requires respect, and true respect requires face-to-face. I respect my instructors 100%.

It is notable that the students perceive the need to respect their professors in person but do not feel the need to respect them online, as if the barrier of computer screens makes their connections feel less human and authentic.

Student Dropouts and/or Transfers to Campuses With In-Person Classes

Lack of motivation led some students to drop out or to transfer to schools that returned to the classroom earlier as UH Hilo lagged in its return because of state restrictions. Many students transferred to other universities and campuses that moved back to in-person classes much earlier than the University of Hawai‘i. Other students moved back home to save money, as Hawaii’s living expenses are the highest.
Unfortunately, many students dropped out of college in response to online learning, as it is more difficult for students to remain engaged in their education with online learning. As shown in Figure 2, 31.7% of respondents considered dropping out and 27% considered transferring, while 44.4% thought about taking off a semester from school.

Jay mentioned that she had considered dropping out and said, “My motivation for education [has declined], and it was like, should I just stop now? I wasn’t even halfway at the point, so it’s not like I was on that homestretch. So yeah, at one point, I really wanted to quit.” Melanie didn’t consider dropping out herself but watched it happen to multiple friends:

I’ve had friends drop out of college because they feel like they’re not getting, you know, the ‘full experience of college’ and they figured they might as well just wait until things go back to normal, I guess when people are face-to-face and learning is always in the classroom because otherwise they see it as a waste of my time.

Similar to Melanie, Cornelius felt that he did not get the college experience. He pointed out that college is expensive and that his friends transferred to other schools that moved back to in-person quicker than UH Hilo, providing a better college experience.
experience. He noted that some students chose to take time off college at a time of uncertainty to see what would unfold next:

People are deterred from going to college. Obviously paying a lot of money and not getting a lot out of it and everything’s online. So, I know a lot of people that have either transferred like myself or just completely taken a semester or a year off just to wait and see or do something different.

Cornelius’s concerns about tuition cost and lack of the full college experience were echoed by Lisa: “The first semester that we had online classes, I told my parents that I wanted to take the year off and wait for COVID to be over to go back to class because I wasn’t learning. I told them, ‘You’re not getting your money’s worth. I’m not getting my money’s worth.’ ” In summary, students considered transferring and dropping out during the pandemic. They didn’t feel it was worth staying, because they were missing out on the college experience, and paying full tuition prices for a lower quality of education didn’t seem right for them.

Of the survey respondents, 60% thought that online classes should cost less than in-person classes (Figure 3). Many students attributed this view to the quality and experience of online classes as being lesser than those of in-person classes. Another reason that respondents cited for online classes to cost less was because of on-campus services: Students paid for services that were not used, such as janitorial services, on-campus technology, medical, and student life services.

![Figure 3. Response to Survey Question 14](image-url)
When asked about tuition costs of online learning, Dareen felt the quality of online courses was lacking and compared online learning to a video game, saying, “They can charge so much for a video on a screen. I think it should have been less because it has been less of an experience. Like, why is this worth my time and credit when it was literally like a video game?” Ailne felt that with online learning, she was left on her own to teach herself. She used external resources like YouTube and Chegg to try to understand the content of the courses she was in, and she felt her professors were not teaching her as thoroughly as they had before the pandemic. She felt strongly that the tuition of online learning should be less than that for in-person classes because of lower-quality content:

A lot of times you had to look up stuff, you had to teach yourself. So the whole point of college is getting these PhD professors to teach you information that they’ve learned. But instead, we’re going on YouTube and going on Chegg, and going on whatever else sources there are, and teaching ourselves. So, what’s the point in paying full tuition prices if we’re doing a teacher’s work for them?

Paul felt that tuition should cost less because on-campus resources were not being used: “I feel like a lot of your tuition goes to on-campus services. So, if you’re paying tuition for an online class, when you can’t go to campus, it should probably be less.” Jay shared Paul’s stance stating,

I think they should have subtracted some of the tuition, because if you look at the full layout of what your tuition covers, it doesn’t just cover the class itself but it’s also for the resources that you have access to on campus. So that’d be the Medical Center, the Student Life Center, the gyms and stuff like that. And there’s like smaller fees here and there. But for those that are strictly off-campus, like they’re from a different state, different island, different side of the island . . . I feel like those kinds of things they shouldn’t be paying for.

Of the students who responded that tuition should not be different between in-person and online courses, several expressed concerns about protecting professors’ salaries and suggested that the costs should remain the same. When asked about tuition, Leritha said,

This is a funny question. I’m a student; of course I want cheaper tuition. I’d side with anyone who is against expensive tuition no matter how lame their ideas are. But I don’t know the amount of money the universities need to run their facilities or pay their professors or other workers, so I don’t really have a say.

Like Leritha, Alex was uncertain about tuition and was concerned that if tuition were cut, faculty may not be paid adequately and the university infrastructure could suffer:

I think being online, I still want my professor to get a fair salary; I still want more universities to provide computers and books for students who can’t buy
them for themselves, so I’m going to pay the same amount, and if I want to pay less, then I can go to a different school.

Gerald also recognized how hard professors had to work in a time of adjustment: “I think tuition should stay the same because the professors are still working just as hard as they were.” Dareen also felt concerned by this question and how it would impact professors. She said, “It’s not like the school is completely shut down, or something. Maybe it should be a little cheaper, but not cheap, or else how are the professors going to get paid?”

Positive Aspects of Online Learning During the Pandemic

Although many students voiced concerns and complaints, interviewees also noted positive perceptions of the online experience. Romano felt that his resilience increased throughout the pandemic. As a future teacher, he felt that the change in learning format was enriching because he was more prepared after his pandemic learning experience:

I learned to adapt, and it was so much better and more rewarding. Now I feel like I have the skills that I need to teach virtually, which is great as a student teacher, and soon-to-be teacher, I’ve learned skills because of online learning. So, what was then hard and then became easy. What was once like “I can’t wait for this to be over” actually became a lesson. It taught me how to learn virtually. And if that’s the way the world is moving, then you can’t really hate it, because at least a skill set was born in it too.

Another interviewee, Alex, found online learning to be beneficial to her lifestyle and time management. She reflected, “I prefer online learning because I can build out those aspects of life that aren’t necessarily available in a traditional sense. I also think it is more effective for time management.” Dareen noted that the online format of learning provided for more flexibility to her schedule. She felt that this time of online learning helped her to prioritize her needs better and make changes in her lifestyle. She said, “Because in being home during the pandemic, you can go outside, you can do things that you wouldn’t typically be able to do if you weren’t at home, and it made me reevaluate in the sense that I need to make more time for myself and prioritize my time better, I guess.” Melanie found that online learning helped her become a better student by becoming more independent and self-disciplined:

Now, I think I’m a lot better at school just because I know how to take it into my own hands. I kind of like it now because I figured out how to stay on top of my things. It probably helped me in the long run. That’s just because it forced me to be better. I really learned how to take control of my own studies.
Like Melanie, Aphrodite felt she became more independent. She said, “I’m more capable of living on my own now.” Ailine found that the experience of online learning during the pandemic provided self-growth and helped her to identify ways to take care of herself better. “I prioritize myself more now. I was able to also work on myself,” she said.

These positive feelings from the students remind us that online learning can provide students an opportunity to grow in self-discipline and to have more freedom with their schedules. Many students learned to take control of their mental and physical health during the pandemic and to become more intentional and aware of their needs and priorities in life. The students who thrive in the online classroom will want universities to offer online courses that may work better for those who have families or jobs that they must work around.

Conclusion

The pandemic challenged students to adjust to learning online. The rapid transition to online learning affected students’ mental and physical health negatively because of isolation in their homes, lack of movement, and limited interaction with faculty and peers. Many students felt lonely and alienated from others at this time while coping with the pressures of their school course loads, which led to high levels of stress and anxiety, and low levels of academic engagement. The nature of online learning affected many students’ motivation levels, leading to disinterest in the classroom, as evidenced by their blank screens. Students dropped out or transferred to other schools in reaction to these difficulties.

A sentiment that is particularly concerning to universities as they move forward after the pandemic is that interviewees perceive online learning as a lower-quality education than they receive in in-person courses. Many institutions, UH Hilo included, may wish to retain some of the online flexibility that came from the pandemic; however, some students feel that they should not have to pay the full tuition for classes that are not high quality, which presents major concerns for institutional goals for academic excellence.

Many students identified positive outcomes from the online learning experience, including personal health benefits, more time spent with family, greater independence and discipline, more outdoor activities, and new coping skills; thus, although the negative outcomes from the pandemic are significant, many students also identified positive impacts, which universities should listen to carefully as they move on from the pandemic.

A major implication of the study was that online learning could be beneficial to campuses by supplementing in-person courses, although our study highlighted the effect of lack of motivation because of online learning isolation and the negative cycle of disengagement that it can create. Universities must seek out ways to make online
courses as engaging as possible and must use strategies to get students participating by using their cameras and their voices in the online classroom. Our interviewees and survey respondents shared their feelings toward the end of the pandemic, which was unique to other studies done during the early part of the pandemic, thus reflecting the wear and tear of nearly two years of online learning. Because students in our study were still in a pandemic mode of learning amidst the uncertainty of face-to-face classrooms, it is possible their answers may have been more emotionally charged than they would be now, in 2023, looking back on their experiences. It may be useful for similar qualitative studies to be done on campuses around the world to hear from students reflecting on the lasting impacts of online learning now that the pandemic is over.
References


BAD BOY BIAS: LINGUISTIC BIAS IN THE LAW

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Abstract

This paper seeks to establish and put in use methodology capable of analyzing the significant linguistic bias found within American jurisprudence. It summarizes the limited preexisting empirical work done and adds a new original empirical study on linguistic bias in the courtroom. It examines a large number of cases through various software and examines the prevalence of certain labels (badges of bias). In doing so, this paper seeks to find the most common labels and seeks to determine the amount of emotional variability present within the courtroom. Based on these results, the paper provides recommendations, answering how best to efficiently minimize the effects of linguistic bias on jury impartiality.

The topic of bias has plagued American jurisprudence since the birth of the country. Significant biases color the decision-making process for every individual, and, unfortunately, “nothing magical happens when people enter a courthouse to serve as [legal officials]—those biases come through the doors with [them]” (Smyton, 2019). Although many individuals have acknowledged the biases within the American court system, only recently has courtroom bias become a major point of contention. Confidence in the U.S. Supreme Court and the criminal justice system are each down four points since 2020 and remain below their 2019 levels (36%; Brenan, 2021). That dour note comes from Megan Brenan, data analyst and research consultant from Gallup polls. Despite institutional trust being at lower levels partially because of the COVID-19 pandemic, there has been a consistent decrease in the American public’s institutional trust over time. According to long-term tracking by Gallup, average confidence in 14 various institutions continues to lag behind where it has been historically (Brenan, 2021). The numbers presented by Gallup may, in fact, be slightly optimistic, as other pollsters have found the number of Americans who have faith in the judicial system to be significantly lower.

A study conducted by Willow Research (2019) found that “only about one-third of Americans today express confidence in the courts and the judiciary in general”. Although there are several reasons for this low number, many of the individuals in the article cited the belief that “poor and minority individuals are at a disadvantage” as the reason for their lack of faith (Willow Research, 2019). This apparent distrust felt by the American public has sparked a movement to bring forth
significant judicial reform. Although this movement may not spark significant institutional change, it can, at the very least, increase the number of appeals and motions made within the courtroom. Some lawyers already make motions to challenge the verdicts of their trials, but it is not a guaranteed practice. Specifically, attorneys may make motions to amend, alter, or vacate verdicts when they believe the verdicts are contrary to the law, contrary to the weight of the evidence, unfair, or impartial (US Legal, 2022). There has been a sharp rise over time in the number of motions to set aside or motions for a new trial (Figure 1), with motions approaching a stable number over the course of the past two decades (Figure 2). Construction of these charts was done by setting a range in LexisNexis for the search phrase and then manually inputting the results into a graph.

Figure 1. “Motion to Set Aside” or “Motion for a New Trial,” 1766–2022

Note. Data came from searching “Motion to Set Aside” OR “Motion for a New Trial” in LexisNexis through various year ranges.
Evidence of Decreased Institutional Trust

Every incidence of an appellate opinion that contains the search criteria of “Motion to set aside” or “Motion for a new trial” corresponds to an individual case. Regarding the few times in which a case has been tried multiple times, LexisNexis and this paper would count it as a separate unique case owing to the fact that the new trial would not be identical to the prior, with unique evidence, motions, and testimony. Unfortunately, it is too early to determine the effects of decreased public trust in the courts on the number of motions and appeals made over time. In fact, relatively little work has been done to construct a complete picture of the courts’
current and historical processing of claims of alleged bias: how often biased language occurs, how motions and appeals are made as a direct result, how many motions and appeals are granted, and ultimately how those claims are resolved in court. This paper begins to fill these gaps in knowledge by gathering existing empirical work from the past two decades: the forms in which bias occurs and the effects of bias on various judges and juries. It also adds a new original study of the analysis of the types and results of bias in specific cases made within various U.S. circuit courts over a 70-year period (1945–2021). Unfortunately, none of this work is recent nor comprehensive enough to foment a clear understanding of bias within American jurisprudence; however, the research synthesized here enables an assessment of our legal system’s historical performance in addressing the problem of linguistic bias. It also provides an empirical method for the continued analysis of the court system’s ability to detect and mitigate linguistic bias in the courtroom.

Paper Synopsis

This paper roughly assembles the previous data on linguistic bias within American jurisprudence, then addresses the legal history of bias within the court system. It further addresses the types of bias most addressed within research and presents available data on the collection of cases with biased language; furthermore, the paper reviews previous empirical work on the courts’ handling of accent bias and racial bias more generally. Additionally, the paper describes the methodology and results of the Bad Boy Bias study, which looked at specific cases from 1945 to 2021. Finally, the paper concludes by discussing the implications of the available data on courtroom proceedings and seeks to provide general recommendations that can be implemented by judges to limit the presence of bias within their courtrooms.

The Legal Framework and Incidence of Biased Language in Jurisprudence

When the U.S. Constitution was ratified on June 21, 1788, it articulated a set of broad-reaching goals and standards, such as “in all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the state and district wherein the crime shall have been committed” (U. S. Const. amend. VI). Essentially, this amendment enforced the notion that the jury must not have any partiality and that the jury must not favor one party more than another and must be unpredisposed, disinterested, equitable, and just. As stated within the sixth amendment, the jury must remain impartial, which, “refers to a jury which is of impartial frame of mind at beginning of trial, is influenced only by legal and competent evidence produced during trial, and bases its verdict upon evidence connecting the defendant with the commission of the crime charged” (Garner, 1999, p. 752).
The responsibility of ensuring jury impartiality largely rests on the prosecutor and defense attorney and is accomplished by examination of jurors during voir dire through questioning. If a prospective juror demonstrates the presence of material bias, which amounts to having certain preconceived notions about the trial, that juror can be disqualified and eliminated from the pool of prospective jurors. To thoroughly examine the possibility of bias, trial courts may question jurors sua sponte or in response to a motion, and some jurisdictions allow for prospective jurors to be questioned directly by the parties or their attorneys. Questions propounded on prospective jurors must have a nexus to a potential material bias or an inferred potential material bias. For example, in *Ham v. South Carolina* (1973), the defendant was a Black activist who presumably protested against non-Blacks. In setting aside the guilty verdict, the U.S. Supreme Court held that questions related to racial bias were material but questions related to the defendant’s beard were not. Furthermore, generalized social group biases can be rapidly and unintentionally transmitted based on observational learning from nonverbal signals; essentially, if the jury consists of a large number of the same type of people, privy to the same biases, it can constitute the possibility of material bias. A potential material bias that can be reasonably described and linked to one of these categories will most likely support a demand to question these prospective jurors, but trial courts generally assume that prospective jurors are not biased or that prospective jurors' biases are not material. The impetus behind this assumption lies in the fact that many trial courts are concerned that questioning prospective jurors may create biases or intensify biases that would not have been material if not for the questioning. It is here that this research is most significant. The results from researching these various biased terms in legal texts can serve to inform trial courts of areas of potential material bias that, until this point in history, have been hidden or disregarded as immaterial when, in fact, they are present and material.

Examples of Bias in American Jurisprudence

A recent example of these biased terms being mentioned in American jurisprudence occurred in the Kyle Rittenhouse trial. Kenosha County Judge Bruce Schroeder disallowed the use of the word *victims* to refer to those who were shot by Rittenhouse, instead ordering that other words, such as *rioters, looters,* and *arsonists,* could be used instead. Schroeder said that “the label ‘victim’ is a ‘loaded word’ and that even the use of ‘alleged victim’ is too close, telling prosecutors that ‘complaining witness’ or ‘decedent’ are acceptable alternatives” (Ortiz, 2021). It is these types of terms that the Bad Boy Bias seeks to address; Schroeder implied that words such as *victim* represent a significant opportunity for preconceived biases to color the jury’s decision-making process. The use of the word *victim* could have been used to foment a type of anchoring bias on behalf of the jury; in this hypothetical, they could have relied too heavily on an anchor (*victim*) and, in doing so, allowed their judgment to be
skewed and used *victim* as a starting point on which to base their judgment. This notion is further confirmed because “anchoring can even influence courtroom judgments, where research shows that prison sentences assigned by jurors and judges can be swayed by providing an anchor” (Chapman & Bornstein, 1996).

Despite the increased attention and awareness around bias in American jurisprudence, the issue went largely unaddressed via meaningful legislation until 2012, when the landmark U.S. Supreme Court case of *Williams v. Pennsylvania* held that a risk of judicial bias was constitutional. In *Williams*, the chief justice of the Pennsylvania Supreme Court, Ronald Castille, refused to recuse himself from a case in which he had a “significant personal involvement” (Wydra & Gorod, 2018). Castille had served on the prosecution team, and it was found that a trial prosecutor in Williams’s case had committed *Brady* violations (suppressing exculpatory evidence, in violation of the case *Brady v. Maryland*). As such, the Pennsylvania Appellate Court stayed Williams’s execution and ordered a new sentencing hearing. It was asked that the Pennsylvania Supreme Court, whose chief justice was former District Attorney Castille, vacate the stay. Williams filed a response, along with a motion, accusing Justice Castille of misconduct, asking Chief Justice Castille to recuse himself and, if he declined to do so, to refer the motion to the full court for a decision (*Williams v. Pennsylvania*, 2016). The accusation of misconduct on appeal was, unsurprisingly, thrown out by Castille, castigating Williams’s defense attorneys in the process. Essentially, without explanation, Castille denied Williams’s motion for recusal and the subsequent request for its referral, after which he joined the Pennsylvania State Supreme Court opinion vacating the appeals court’s grant of penalty-phase relief and reinstating Williams’s death sentence. Specifically, because of Chief Justice Castille’s authorization to seek the death penalty against Williams, this amounted to significant personal involvement in a critical trial decision, and Castille’s failure to recuse himself from Williams’s case presented an unconstitutional risk of bias. This landmark case represented the first meaningful major case law that would lead toward the goal of an unbiased court system. Christina Ford, the author of an article on *Williams v. Pennsylvania*, stated, “The court’s decision helped to ensure that our justice system is an impartial one” (Wydra & Gorod, 2018). Unfortunately, despite the landmark decision, incidences and claims of bias continued to rise throughout the late 2010s and early 2020s.

The “Black Box” of the American Judicial System

Despite claims of bias stabilizing in recent years, they remained historically high despite increasing instances of case law like *Williams* and increased public scrutiny. (See Figure 3.) When discussing the incidence of bias in the courtroom, the most easily accessible source of information is appellate opinions found in databases such as LexisNexis (now known as Nexis Uni). These cases provide a summary of what happened in the courtroom, including motions, appeals, and other points of
interest; they are extremely useful in providing evidence and justification for any decisions made during the trial. The other public alternative is PACER (Public Access to Court Electronic Records). This electronic system provides access to judges’ orders as well as to pleadings and other documentation related to the courts’ dockets. PACER is not easy to search, however, with it acting as a sort of “black box” to the inner workings of the American court system. Researchers who use the federal database engage in the time-consuming task of combing through thousands of cases to isolate the relevant ones. To make empirical projects that use PACER more manageable, researchers tend to focus on particular courts.

Figure 3. Mentions of “Bias,” 1950–2000

Note. Data came from searching “Bias” in LexisNexis through various year ranges.

As a result, it is difficult to get an overall picture of what is happening in trial courts across the country (Siegelman & Donohue, 1990). The issue, ironically enough, lies in the fact that these appellate opinions are written by studied practitioners of the law, which is demonstrated clearly within the case of *Settlegoode v. Portland Pub.*
Schs (2004). In Settlegoode, biased language was used by counsel during the closing argument of the trial, but it was argued that using some degree of biased language during closing arguments is a well-accepted tactic in American courtrooms. Specifically, it was noted that several of prosecutor Kafoury’s statements were close to stepping over the line, specifically when referring to the defendant, Winthrop, as “spiteful” and “cruel.” It was further noted that it is the job of the counsel to present their client’s case in the most sympathetic light; however, in Black’s Law Dictionary, more generally, biased terms have the potential to sway the jury’s decision because of some previously unaccounted-for material bias. The fundamental issue in American jurisprudence is that biased language is accepted within the courtroom, and as such, the reliability of appellate opinions when searching for incidences of biased behavior is difficult. The individual responsible for writing the opinion may not even mention the biases or biased language because, in their opinion, it was not worth mentioning because its presence had little effect on the outcome of the trial. It is therefore unknown exactly how many instances of linguistic bias occur in the courtroom, what proportion results in charges that go against the weight of the evidence, and which lawyers choose to pursue various methods to mitigate the effect of said language. Certain biased language is being used within courtrooms, however, and the individuals who claim they experienced bias may not be representative of those who were on the receiving end of biased language overall.

Addressing Biased Language: Processes and Data

When someone in the court system believes they are the victim of bias, they are able to file several motions in order to mitigate the effect of it, and this is done through the alleged victim’s counsel. Given the infancy of the field of linguistic legal analysis and the lack of available data, there are no comprehensive figures able to compare the receipts of various motions of bias over time. Ergo, logical assumption dictates that as mentions of bias become common, motions against it would also increase. Turning from these individuals’ inputs to their outputs, there are four general outcomes possible. (The remainder of this section speaks generally, as few data are available regarding the types of motion made and their corresponding outcomes.) Once a motion is made, the presiding judicial officer(s) can either choose to grant the motion or deny the motion, presumably based on the weight of the evidence. When a motion consisting of multiple parts can be partially entertained, the judicial officer(s) can accept or deny the motion in part. If a notice to appeal is made and sustained by the jurisdiction’s court of appeals, then a new trial may be granted; however, this logical path fails to take into account the possibility of an alleged victim receiving ineffective assistance from their counsel. Albeit hypothetical, there are certainly logical grounds for believing that an individual who was the victim of a verdict not in line with the evidence failed to file a notice to appeal because their counsel did not want to or failed to consider that as an option.
The fundamental issue with collecting data regarding these motions and the presence of bias is the lack of available data. Not every court case has a transcript available. Although free-to-use software such as Court Listener exist, they are incomplete and rely on individuals adding to their databases by spending their own money. U.S. policy dictates that all court cases are required to have an audio recording available, and through public software such as PACER, an individual can request to have the court audio recording transcribed into a written document that can be analyzed; however, converting these audio recordings into written documents requires significant sums of money, sometimes upwards of $3.50 per page. Even accessing the already-converted documents in PACER requires paying a $0.10 fee per page. A significant financial burden is thus required to do any sort of thorough analysis of the data, which means that little to no data analysis is done on a large aggregate of cases.

Previous Empirical Work

Accent Bias in the Courtroom

When discussing the previous empirical work done in the field of linguistic analysis in the courtroom, the infancy of the field cannot be overstated. Research into linguistic bias, specifically, is virtually nonexistent. The closest that has been found that holds some relevance to the Bad Boy Bias project was a study done in early 2021 discussing implications for bias stemming from the ways in which stenographers transcribed African American English. The study was simulated through an analysis of the accuracy of the transcriptions created by court reporters when faced with African American English. The experiment featured 13 different features of African American English and combinations of various features (e.g., “she always talkin’ ’bout ‘why your door always locked,” which uses “talkin’ ’bout” as a verb of quotation, here analogous to asking, and deletion of verbal copula in the quoted question). The result was a survey instrument of 83 sentences with nine different voices, randomized across speaker, gender, and grammatical features. After the survey instrument was created, 27 court reporters from the official Philadelphia court reporter pool were selected, and they were administered a test consisting of audio at a comfortable, but loud, volume. A warning tone was then played, followed by a second of silence, the audio, another second of silence, a repetition of the same audio, and 10 more seconds of silence, for each sentence (Jones, 2021). They were then asked to transcribe what they heard, with unlimited time to edit and fix their transcriptions.

The results of the test were nothing short of shocking. Pennsylvania court reporters are certified somewhere around 95%-98%, depending on the certifying body, but this study found that no individual court reporter performed at or above 95% accuracy, no matter how accuracy was measured. Measuring by sentence, they
performed, on average, at 59.5% accuracy. Measured by word—closer to how they are evaluated for their certification—they performed, on average, at 83% accuracy. In other words, more than one in three sentences were transcribed incorrectly, and approximately one in every five words were transcribed incorrectly (Jones, 2021). Although paraphrasing is obviously part of the job of a court reporter, it was shown that they fundamentally lacked an understanding of the constructs surrounding African American English. Because of the court reporters altering the sentences in that manner, “31% of the transcribed sentences changed the who, what, when, where, or force of a sentence, effectively, changing an alibi” (Jones, 2021). These findings held true across both racial and political lines, with African American reporters and liberal reporters having no statistically significant advantage over their colleagues. The following policy recommendations were made based on the study: court reporter training should include training in different dialects of English, K–12 education should include more focus on the linguistic basics of dialects, and policy-makers should consider strengthening legal protections against linguistic discrimination.

The implications of this study are staggering. By showing that there is an unstated prejudice in the way reporters, and presumably stenographers, transcribe court cases, the study calls into question the accuracy of the transcripts and appellate opinions found on various platforms such as PACER and LexisNexis. In particular, appellate opinions are sometimes written by court officials reading the transcripts of trials, and Jones’s study brought into light the ability of court reporters to effectively remove or give an individual an alibi. Based on this study, in order to gain a more accurate understanding of what is going on within courtrooms, the future of linguistic analysis in American jurisprudence should be conducted via an analysis of the audio files of court proceedings.

Labeling Theory

One of the goals of the Bad Boy Bias project is to identify the various biased terms being used within the courtroom. The reasoning behind searching for these various badges derives largely from the criminological concept known as labeling theory, which seeks to examine “problems that emerge after the social environment has defined or typified the individual as a deviant” (Bernburg, 2009). Essentially, labeling theory seeks to examine the effects upon an individual and/or the perception of an individual when they have some form of label forced upon them.

Bernburg (2009) sought to examine the processes by which an individual can acquire a label, internal and external perception upon the reception of a label, and the consequences of receiving a label. The study found that acquiring a label can happen in several ways but that nearly all the methods involved an interaction with the state. The state was able to brand the individual as a criminal, deviant, or danger through the individual’s criminal record, or through the individual’s interactions with state
officials while in the corrections system. Bernburg found that receiving a label altered an individual’s perception of themselves and that “a perception [change] of oneself . . . may lead to a change in self-concept; the person may begin to see him or herself as a deviant person, taking on the role of the deviant” (Bernburg, 2009, p. 191). Essentially, Bernburg found that being given a label as a criminal offender or other similar label tended to trigger processes that reinforce or stabilize the individual’s involvement in crime and deviancy, net of the behavioral pattern and the social and psychological conditions.

An individual seeing themselves as deviant or taking on the role of a deviant because of a label forced upon them by the state represents a serious failure of the corrections system. This failure is clearly present when discussing the associated stigma of an individual receiving a deviant/criminal label; Bernburg found that “the stigma attached to deviant labeling can stir up processes leading to exclusion from relationships with conventional others and from legitimate opportunities” (p. 191). Specifically, it was noted that this form of deviant labeling was not unique to individuals who were part of some registry (sex offenders) and was prevalent when analyzing individuals who had some criminal act on their record. This failure is further compounded when considering recidivism, as it was found that “formal adjudication increased the likelihood of recidivism, net of prior record, type and seriousness of the offense, and social demographic factors” (Bernburg, 2009, p. 194).

Obviously, any analysis of labeling theory is subject to the threat of omitted variable bias. The results from any study may be spurious because of important variables being left out of the analysis. Nevertheless, Bernburg’s findings pose several important questions with regard to the role of the state in fostering recidivism and fostering deviant behavior. The presence of these biased terms, or “badges of bias,” either formal or informal, represents a significant failure of the punitive justice system in America and the American legal system more broadly. Although certain suggestions were given within Bernburg’s study to combat the effects of labels, very little was mentioned about preventing their use in the first place.

It is through this study that the goals of the Bad Boy Bias project become more apparent. Despite the inevitability of labels, finding what labels are commonly used within the courtroom may help eliminate traces of material bias in the jury due to their preconceived notions of certain labels, or it may help the court system remove certain labels that will increase an individual’s likelihood to recede into deviant behavior.
Bad Boy Bias in the Law Project

Initial Study Methodology

The Bad Boy Bias in the Law project was conducted in collaboration with the University of Alabama at Birmingham (UAB) College of Arts and Sciences. The research was sponsored through an academic grant provided by the UAB Office of Service Learning and Undergraduate Research. The initial goal of the project was to determine, if American jurisprudence is based on evidence, why phrases like bad man and bad woman are so prevalent in case law. If the evidence does not prove guilt, for example, what difference does it make that the accused is a “bad” person from the court’s point of view? On the descriptive side, the next step was to determine how the phrases bad man and bad person were used and in what frequency they occurred. Making use of the legal database LexisNexis, an aggregate of 10,000 cases was created. After preliminary analysis, it was determined that the appellate opinions containing hits for the search phrases bad man, bad woman, bad person, bad boy, bad girl, and bad dude did not discuss biased language in the courtroom as much as they made mention that it was not the job of the prosecutor to portray the defendant as a “bad thing.” As such, the nature of the project shifted; the 10,000 appellate opinions from LexisNexis (Nexis Uni) were discarded and it was decided that, instead, the project would analyze court transcripts to remove the legal jargon that impeded the initial analysis.

Current Study Methodology

The focus of this project was to analyze a sample of available audio files on the Court Listener database to see what bias, if any, occurs and in what form it takes shape; Court Listener was chosen because it is the largest free-to-use database of American court data. PACER was not used in this study because of the financial backing needed to download every transcript in the database.

The previous empirical work done on accent bias drew concern, as it was believed that the stenographer’s transcription may lead to an inaccurate transcript. As such, audio files were chosen because of their inability to be manipulated by human error. In order to extract the audio files, the Court Listener API was modified into an application that can extract the aforementioned files any number of times, across any Windows operating software. In the future, this application can be utilized to extract new audio files uploaded to Court Listener, and it can be modified to extract the available audio or text files from PACER. Running the application resulted in a set of 205 audio files that were each 30–60 minutes long; the audio did not have specific inclusion criteria, but it was found that the audio files retrieved via the application were from the Circuit Court of Cook County, Illinois.
Unfortunately, little to no commercially available audio analysis software exists that can measure things such as emotion, tone, or word frequency. As such, the audio files were then converted into text files through Google Cloud Computing Services, making use of its Speech-To-Text API. After the conversion process, a folder was created containing 205 text files ranging from 20 to 40 pages. Despite the Speech-To-Text API being prone to certain errors resulting from a limited dictionary and garbled audio, it was accurate enough to provide a clear transcription of what was happening in the courtroom. In order to analyze the text empirically, the software Linguistic Inquiry and Word Count (LIWC) was used. Although LIWC is an admittedly crude instrument, it is one of the only commercially available linguistic analysis software and is sufficient for providing an overarching look at the presence of bias within the American court system.

Study Results

All 205 cases present within the Court Listener API were analyzed through the LIWC software for tone, positive tone, negative tone, positive emotion, and negative emotion. Figures 4, 5, and 6 analyze the tone of the transcripts looking at positive tone, negative tone, and overall tone.

Figure 4. Aggregate LIWC Tone Score

*Note. N = 205.*
When discussing the results of the analysis, one must understand exactly where these scores come from. LIWC reads a given text and compares each word in
the text to the list of dictionary words, then calculates the percentage of total words in the text that match each of the dictionary categories. For example, if LIWC analyzed a single speech containing 1,000 words using the LIWC-22 dictionary, it might find that 50 of those words are related to positive emotions and 10 words are related to affiliation. LIWC would convert these numbers to percentages: 5.0% positive emotion and 1.0% affiliation (LIWC, 2022). All scores are therefore the percentage of the number of words associated with the various criteria relative to the overall transcript. As stated earlier, however, LIWC is an admittedly crude instrument; no current capabilities exist by which the LIWC software can determine if a word corresponds to certain emotions given the context of a sentence. For example, in the sentence *The defendant is not an angry person*, the software would still consider **angry** as contributing to the negative tone score, despite the speaker’s clear intention otherwise. Despite that, LIWC represents one of the few nonmanual ways to analyze emotional context within a text and is sufficient for determining overarching trends of emotional language and for proving the presence of bias.

What immediately becomes apparent is the similarity between the scores of positive and negative tone. Both scores are within the range of 0 to 3.5, but the positive tone score aggregate given by the LIWC software centered in the range of 1.08–1.62, whereas the negative tone score aggregate centered convincingly in a range of 0.81–1.08. Interestingly, the shapes of the distributions are distinct, with the negative tone having a well-defined mean with the number of scores decreasing as the score gets higher, and the positive tone having a more or less equal cluster from 1.08 to 1.62 and then sharply tapering off. One can assess these results and realize that, in the context of a larger sample of cases, the resulting distributions of positive and negative tone would be roughly equal. Logically, this conclusion follows when one considers the nature of a courtroom, in which, the majority of the time, the defendant is trying to paint themselves in the best possible light and the plaintiff or prosecution is trying to convince the jury that the defendant is responsible for some illegal, therefore negative, action.

The stark difference in the range of the scores when comparing overall tone (Figure 4) to positive and negative tone is most apparent. Note that many LIWC-22 categories are organized in a hierarchical structure. All anger words, by definition, are categorized as negative emotion words, which are, in turn, categorized as emotion words. Also note that the same word may be categorized in multiple dictionaries. For instance, the word *celebrate* is in both the positive emotion and achievement dictionaries (LIWC, 2022).

With this knowledge, the reason for the disparity is clear. Within the LIWC-22 dictionary, several words can contribute to the tone of a statement, without being classified as positive or negative. The shape of Figure 4 resembles a positively skewed distribution; there is a well-defined mean, and the mode and median are less
than the mean, which means there are some extreme cases in which the tone of the specific transcript is an outlier from the tone of other cases.

Noting that some words were categorized into several different places, the next question pointed to the emotional context of the cases. The trends established in the aggregates could associate positive tone with positive emotion. As such, the cases were run through the LIWC software again, this time with the intent to analyze the emotional content of the cases. Figures 7 and 8 show the distributions of positive emotion scores and negative emotion scores.

Figure 7. Negative LIWC Emotion Score

*Note. N = 205.*
Unlike the positive and negative tone score distributions, there are several differences apparent within the positive and negative emotion distributions. Positive emotion has a significantly smaller range than negative emotion: 0–0.55, as opposed to 0–1.65. The similarities between these two scores, although not particularly shocking, do hold a glimmer of hope for American jurisprudence. On average, all cases within the sample had an emotional score, either positive or negative, less than 1, meaning less than 1% of all words used within the courtroom were considered to be emotionally weighted in some way. Both of these distributions are positively skewed, which makes sense. It is infinitely more difficult to ensure objective language than it is to allow any form of language within a courtroom. The trends across both emotion distributions are similar to those of their respective tone distributions, which shows that there is some correlation between the tone of speech in a courtroom and the type of emotional language used. At the very minimum, the fact that, in both cases, emotional scores are nowhere near as high as the tonal scores shows that emotional variability is somewhat reduced. The apparent bias found via these scores must be addressed in order to ensure an objective courtroom, however.

Finally, the overall emotional score of the cases was measured (Figure 9). Similar to Figure 4, Figure 9 seeks to measure the overall emotion present within these cases, rather than trying to show some form of emotional tilt. As stated previously, within the LIWC-22 dictionary, several words can contribute to the emotion of a statement without being classified as positive or negative. As such,
Figure 9 provides an insight toward the amount of emotional bias used within courtrooms, along with an understanding of the amount of emotional variability in a case beyond that provided by positive and negative emotion.

Figure 9. Aggregate LIWC Emotion Score

*Note. N = 205.*

Figure 9 provides a distribution similar to those provided by Figures 7 and 8. The distribution is clearly positively skewed, but there is no well-defined mean as seen in Figures 7 and 8. The reason for this lack of well-defined mean is most likely the result of certain words not classified as positive emotion or negative emotion being present within these cases. The mean thus exists between the values of 0.28 and 0.80; on average, less than 1% of the language within these cases was construed as having some form of emotional bias. Given these results, the next step was to see if there were any similarities between the types of language used within these cases. As such, a composite text file containing the entire data set was made.

The composite text file was run through PDF Word Count & Frequency Statistics Software, which created a word frequency chart. After removing the noise (words such as *the, a, for,* and so on) from the analysis, a word cloud (Figure 10) was generated. Notwithstanding dozens of other words that could have been included, these 20 were the most common, mentioned and repeated in sufficient concentration to justify their inclusion.
Study Results: List of Biased Terms

Although word clouds do not provide sufficient information to support a detailed analysis, they nevertheless provide some access to the text’s main themes. Arguably, the word *risk* may not be justified in being included in the results, but upon closer examination, it was found that *risk* was occasionally used in the context of describing an alleged offender as a risk to a community or society. *Criminal*, while arguably one of the most used labels present within Figure 10, can evoke certain emotions—especially if someone is referred to as a criminal in reference to any prior crimes committed. The suggestion provided would be for judges to ensure that prior
crimes committed by an individual cannot be referenced unless directly relevant to the case, such as establishing a modus operandi. If a person is referred to as a criminal in the context of the ongoing trial, it should always be prefaced by alleged, as the standard of law for the accused in American jurisprudence is “innocent until proven guilty.”

The word reasonable appears slightly less than criminal. Although reasonable can be used within the context of proving someone guilty beyond a reasonable doubt or reasonable suspicion, there were some overtures made toward the defendant being a “reasonable” individual who would never commit the crimes in question. Given the ubiquitous use of reasonable within the courtroom, combined with its embeddness in legal application, simply disallowing the word from being used would not be practical. Instead, an approach can be implemented by which individuals within the court are requested to avoid using reasonable to describe an individual, thereby limiting it to its intended legal function.

Aggravated follows a similar train of logic to reasonable; it can be used to describe an individual or can be used alongside various courtroom terminologies, such as aggravated assault. The suggestion to avoid the bias created by this badge of bias would be exactly the same as the suggestion for reasonable. Every following badge of bias follows the train of logic established by criminal, reasonable, and aggravated: ordinary, danger, willful, rational, irrational, predator, violent. Of the aforementioned terms, predator has the highest amount of emotional weight in the LIWC-22 system, being associated only with negative tone, and is the term most likely to sway the jury against an individual, especially if the individual fits into the stereotypical image of a predator. As previously stated, every term within Figure 10 was present across at least four cases. Retrospectively, predator as a badge of bias may have been a product of the limited sample size, but the results are clear: bias is present within the courtroom.

What, then, does this all mean for current American jurisprudence? More specifically, what are the implications of these results, on top of the aggregated results of previous research, for the enforcement of the law, for the supposed impartiality of the courts, and for the prospects for real and lasting judicial change?

Conclusion

This paper sought to summarize any available research in the field of courtroom linguistic analysis, along with laying the groundwork necessary to analyze large caseloads, transcripts, and audio files going forward, but the data set analyzed was so small that there could be significant sources of bias not even explored within the context of this paper. The field of linguistic analysis is in its infancy. This paper has established the first steps toward concrete methods of analyzing any language in the courtroom and is easily applicable to the larger data sets that the project intends
to analyze going forward, the impetus behind this being that potential biases must be identifiable and articulable before they can be addressed within the courtroom.

When discussing the impartiality of the courts, the data show what many have suspected for a long time: Courtrooms are extremely susceptible to bias, bias does occur, and it can occur in the form of various labeling and emotional-manipulation techniques. This does not even address the implicit bias that occurs when prosecutors offer nearly every individual a plea deal. Many are likely to take the deal, despite not being guilty, out of fear of a harsher sentence or an inability to pay the court costs necessary to launching a solid defense. The study conducted on court reporters’ ability to accurately transcribe African American English shows that even with the transcription process, bias occurs. As such, certain policy recommendations must be addressed.

The proposed policy recommendations as presented within this paper are meant to be very broad, simply because of the lack of data available in the Bad Boy Bias study. The first recommendation is to place significant emphasis on the reason for trial proceedings. When considering a motion to alter the proceedings, the judge must ask themselves why this motion was made, how the decision will look to an individual in the courtroom, and how the jury, and therefore the trial as a whole, will be affected by this change. The second recommendation is this: Accepting biased language, specifically within closing arguments, should no longer be tolerated. As stated within the appellate opinion of Settlegoode v. Portland Pub. Schs (2004), the opinion mentioned that biased language was used by counsel within the closing argument of the trial. However, it was further stated that using some degree of biased language during closing arguments is a well-accepted tactic in American courtrooms. Simply put, this can no longer continue. If the courts wish to regain their impartial status, significant efforts must be made to establish that charged and biased language can no longer be used within a trial.

A judge must remind the prosecution and defense that the case is meant to be based on the evidence alone, and linguistic flair cannot be tolerated. Labeling can no longer be tolerated, either; Figure 10 provides a list of labels that have been commonly used in various courtrooms. The effects of labeling theory, as presented in the paper published by Jón Gunnar Bernburg (2009), shows that these labels can have severe effects on the lives and futures of those unfortunate enough to receive them. In order to promote a less-biased jury and a more-justice-oriented courtroom, these labels and their associated phrases must be avoided at all costs.

Ultimately, a large portion of this responsibility must fall on the judge as the person responsible for managing the proceedings of a trial. The judge must make sure to keep an extremely alert ear for anything that can be construed as biased, and they must ensure that the jury will not be significantly altered by the presence of biased language. Simply put, the notion that biased language has no effect on the outcome
must be dropped altogether if the court wishes to establish itself as the nonpartisan, unbiased entity it once was.

Modestly, this work might be informative, designed to spread accurate legal knowledge about concepts of bias and due process. More ambitiously, this work might also be definitional, moving toward a communal understanding of the inner workings of American jurisprudence. Finally, and most ambitiously of all, this work could be transformative, whereby one acknowledges what is happening within the courtrooms of the United States and works to reinstate the public’s faith in the impartiality of the courts as well as the public’s belief that the courts are figureheads of justice in the corrections system. These 205 cases show one how far they still have to go and begin to show various paths for going forward.
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Textbooks, novels, and other works authored by Anglo-American writers have frequently represented Native American history and culture in inaccurate, even racist, ways. In contrast, Indigenous authors, both past and present, have written books that have the potential to give more historically truthful and thorough representations of their people and culture, thereby offering a more valid picture of U.S. history. Using fiction to teach fact may look like a contradiction, but Native
American novels often correct “historical facts” written by Anglo-American scholars that are actually fictions or, at the very least, biased and incomplete.

Whereas recently, some organizations, such as the Smithsonian Institute, have made sincere efforts to revise outdated depictions of Native Americans, most students in the United States continue to receive inadequate and inaccurate information about Indigenous people, often from their history textbooks. These textbooks have offered the barest minimum of information, such as “re-enacting the first Thanksgiving, building a California Spanish mission out of sugar cubes or memorizing a flashcard about the Trail of Tears just ahead of the AP U.S. History Test.”

Textbooks are only one part of the problem, however.

Literature featuring Native Americans often contributes to the issue. Even though Native American people and their history have been featured in many famous works of literature, the vast majority of these depictions are very Eurocentric and stereotypical. Laura Ingalls Wilder’s novel *Little House on the Prairie*, a fictionalized account of the author’s childhood, is only one prominent example of this issue. In one particular example, a Native American man named Soldat du Chêne saves the Ingalls family from being massacred by the Osage tribe. “That’s one good Indian!” Pa said. No matter what Mr. Scott said, Pa did not believe that the only good Indian was a dead Indian.”

Even though this passage seems innocent at first, it is a form of racism that romanticizes Native Americans as primitive and not civilized and complex like Anglo-Americans. This attitude may not be hateful toward Native Americans, but it still does not see them as full, complete people and nations. Had this Osage not saved the Ingalls family, Pa would not have spoken so highly of him. Ma’s attitude toward the Osage is less subtle. When Laura states that she hopes to see a papoose, Ma exclaims, “Whatever makes you want to see Indians?” When Laura asks why Ma doesn’t like Indians, Ma replies, “I just don’t like them.”

The assumption in both Pa’s “noble savage” attitude and Ma’s blatant racism is the same: Anglo-American priorities should come first. Wilder wrote, “Pa had word from a man in Washington that the Indian Territory would be open to settlement soon,” which shows a complete disregard for Native American rights and even survival. These passages illustrate how the stories that most students read are told from the settler perspective, ignoring much Indigenous history and culture or, even worse, offering invalid and damaging information about Native people, thus contributing to their continued marginalization and oppression.

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3 Wilder, 46.
4 Wilder, 47.
Literature written specifically by Native American authors can be used to give not only a better understanding of Indigenous history and culture but also a more thorough and varied one. The tendency in both history and literature by Anglo-American authors has been to represent the European colonial perspective, which includes focusing on Native interactions with colonizers, as though no Native American history existed prior to the arrival of European settlers: “Unknown or forgotten are the many accomplishments and contributions of the Indian before, during and after the arrival of the white man.” In addition, the history of Indigenous people after the settler period of the North American continent is frequently glossed over as if there are no Native Americans left except “reservation Indians,” who, rather than being active participants in their societies, are merely “remnants of a once proud people.” And of course readers encounter the usual stereotypes of savage war parties attacking peaceful pioneers on their way west, apparently for no reason, which suggests that Indigenous culture is violent by nature and implies that society as well as Native people themselves are better off under Anglo-American hegemony. All these tendencies keep Native Americans from being portrayed accurately, thoroughly, and sympathetically.

This paper argues that Native-authored fiction can be used to counter many of these factors and, ironically, can offer a better, more complete account of Indigenous history than many textbooks. This argument can be made using as an example a close, contextualized reading of *The Plague of Doves*, a novel by Ojibwe author Louise Erdrich published in 2008 as the first book in her Justice series. The story is about the people—Native, White, and mixed race—in the fictional town of Pluto, North Dakota, during the mid- to late twentieth century. The residents are haunted by a lynching that happened in 1911 when three Native Americans, including a thirteen-year-old boy named Holy Track, were killed by a mob. The mob believed the Native Americans were behind the massacre of a farming family known as the Lochrens that left only one baby alive. The story focuses on the life of Evelina Harp, a young woman of both Native American and European descent. She recounts her family’s history, which involves her grandfather, Mooshum, a survivor of the lynching. The book is fiction, but the murders and lynching are based on a real-life event called the Spicer Massacre. Although the massacre in the novel happened in the past, the characters are still haunted by it, thus demonstrating how Anglo violence against Native Americans in the past reverberates through Indigenous cultures today. Erdrich retells the massacre and offers an alternative version of what happened and of the identity of the murderer that undermines stereotypical Eurocentric beliefs about

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Native American violence. Furthermore, the book can offer people a view of the lingering legacy of European colonization, including the effects of colonialism in the form of multigenerational trauma, which is revisited in another novel in the justice series, *The Round House*.

In 1897 in what would become the state of North Dakota, a farming family of six named the Spicers was brutally attacked in their home and was killed, “with the exception of two daughters of Mr. and Mrs. Spicer, who chanced to be away from home at the time.”7 After a farmer discovered the crime scene, law enforcement started a search for the perpetrators. Although who really killed the Spicer family remains a mystery, many people at the time believed that Native Americans were involved, as reported in contemporary news stories:

It is believed that Indians may have been the murderers, although there is nothing to substantiate the theory other than that a number of them are said to have been seen loitering about the neighborhood. It is said they were decked with war paint, which is considered proof that they were out for mischief.8

Another newspaper, *The Daily Review*, goes into detail about how the women in the family, Mrs. Rouse and Mrs. Spicer, were supposedly “ravished,”9 or raped, although sources have shown that Native Americans most likely did not practice rape, as Thomas Abler discusses: “Rape does not appear to have been practiced by Indian warriors in eastern North America. A large number of persons, both female and male, who had been captured by Indians have testified to the fact that rape was not among the abuses Indians heaped on their captives.”10 *The Daily Review* also speculates about the possible motivation for the massacre while using the stereotype of the drunken Indian: “It is known that an Indian woman was badly beaten by a white woman near Winona not long ago, and it is possible some drunken Indian thought to take revenge on these harmless people.”11 Despite the article mentioning a Native woman being the victim of White violence, that incident did not spark any outcry, suggesting it was likely a common interracial interaction.

Eventually, two Native men, Alexander Coudot and Frank Black Hawk, who were already under arrest for butchering other men’s cattle, became the chief suspects in the Spicer murders; they both denied any involvement. Shortly afterward,

8 “A Horrible Deed.”
11 “Winona’s Massacre.”
Paul Holy Track and Philip Ireland, two younger Native men, also became suspects when they were found to be in possession of personal items that had belonged to the Spicers. Holy Track and Ireland eventually confessed and implicated Coudot, Black Hawk, and another Native man, George Defender, and they agreed to be state witnesses against Coudot and Defender. Coudot was found guilty of murder and sentenced to death, but Defender’s trial ended with a hung jury. The North Dakota supreme court reversed Coudot’s conviction, however, because the accusation of Holy Track and Ireland was not enough evidence because they had also confessed to the murders. A new trial was ordered for Coudot.12

After Coudot’s reversed conviction, he, Holy Track, and Ireland were in jail when a group of vigilantes sought out and lynched them, as detailed in a contemporary newspaper:

The murder of the Spicer family, near the village of Winona, in this county, on Feb. 21 last, has been summarily avenged. Alexander Coudot, the Indian halfbreed; Paul Holytrack, and Phillip Ireland, full-blooded Indians, were taken from the jail here last night and lynched by a mob of white men. The lynching had been coolly and carefully planned and was carried out without a hitch in the programme. The lynchers worked quietly and with determination. They were in sufficient force to have overcome any resistance that might have been offered, and as there is no such thing as a militia company or other like body in the vicinity, and as there are only a few residents in the town, there was no one to offer any opposition.13

The way the newspaper appears to applaud the lynching is not only horrific but also seems to take as obvious that the men were guilty, when in fact two of the lynched men had confessed in police custody and changed the details of the massacre significantly in a second confession14 and the third man had just had his conviction reversed by the state supreme court.15 All of this can be shown as an example of how Anglo-American settlers enacted their own form of frontier justice that did not consider the rights of the Native Americans and that assumed they were guilty.

Erdrich uses the Spicer massacre as inspiration but changes the details to give the Native American point of view, to criticize the role of White people, and to redirect our attention to the fact that settler violence historically surpassed the violence perpetrated by Native people. The setting of the novel itself offers a clue about settler ignorance and arrogance. The Plague of Doves is set in the fictional town

13 “Massacre of the Spicer Family Is Avenged By a Mob,” Inter Ocean (Chicago, IL), November 15, 1897, https://www.newspapers.com/image/33863272/.
14 Beidler, 3.
15 Beidler, 9.
of Pluto, which is ironic because Pluto is the name of the Roman god of death and the underworld, and it is within this town that death takes place, as with the lynching of the Native men. The town’s name also reveals the ignorance of the people who founded it. Cordelia Lochren, the sole survivor of the murdered family, explains, “Frank Harp suggested Pluto and it was accepted before anyone realized they’d named a town for the god of the underworld.” Although this passage at first glance seems irrelevant, it functions as an example of settler arrogance and ignorance. The founders of Pluto did not take into consideration that they would be naming their potentially prosperous town after a god that does not represent what they envisioned. The town does end up being a place of death for the Native American habitants, however.

In addition to referring to this pagan god of the dead, the book alludes to the Christian religion brought by Europeans and changes the Christian symbolism into something negative. According to the *Oxford English Dictionary*, a dove is a bird, but it can also be “a messenger of peace and deliverance from anxiety, as was the dove to Noah.” Doves are a symbol of peace in the Christian religion. For the Native people of Pluto, however, the doves are a plague, just as the settlers and their religion are. Evelina recounts, “The doves ate the wheat seedlings and the rye and started on the corn. They ate the sprouts of new flowers and the buds of apples and the tough leaves of oak trees and even last year’s chaff.” The doves clearly symbolize how settlers took everything, including land, from the Native people, leaving nothing for the Indigenous people to salvage.

Erdrich’s novel exposes both the legacy of European colonization and the violence inflicted upon the Native people, which continues in the present, specifically using historical events such as the massacre. Erdrich makes this clear in *The Plague of Doves*; Deborah Madsen discusses how the misfortunes of Native Americans, such as land division, historical displacement, and murder, are advantages to Anglo-Americans who have used them in order to gain power. Madsen writes that Erdrich uses characters like Evelina and Judge Antone Coutts, who are mostly unaware of their family history, to illustrate White privilege and the impact it has had on all generations. An example of the legacy of European colonization in North America is shown in *The Plague of Doves* when Evelina describes her future grandmother who is Métis, a person who has both European and Native American ancestry:

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She had the pale, opaque skin and slanting black eyes of the Metis or Michif women in whose honor the bishop of that diocese had written a warning to his priests, advising them to pray hard in the presence of half-breed women, and to remember that although their forms were inordinately fair their hearts were savage and permeable.\(^{20}\)

The way Evelina describes the clergy’s perception of Native or Métis women reflects what most Anglo-American people have projected onto Native women, which has justified their sexualization and domination.

*The Plague of Doves* depicts the greed of settlers and how it directly and indirectly affects the lives of Native Americans. To further demonstrate her point about the legacy of colonialism, Erdrich uses the cannibalistic monster known as the wiindigoo to represent the colonizers, which is common in Native American stories: “Wiindigo—otherwise known as colonization—is the name of the monster that was killing us.”\(^{21}\) In fact, one of Mooshum’s stories, “Liver-Eater Johnson,” depicts a type of wiindigoo; the title character, who is a trapper, not only hates Native Americans but is also a cannibal: “He then related the horrifying story of Liver-Eating Johnson’s hatred of the Indian and how in lawless days this evil trapper and coward jumped his prey and was said to cut out the liver from his living victim and devour the organ right before their eyes.”\(^{22}\) Although the word *wiindigoo* is not said in the story, it is implied in the liver eater’s description; the liver eater/wiindigoo works as a metaphor for settler greed for land and hatred for Native people, as Madsen discusses: “Greed for land and a willingness to murder in order to satisfy the hunger for land defines the wiindigoo logic of settler colonialism.”\(^{23}\) Like the wiindigoo’s constant craving for human flesh, settlers have always hungered for Native land to settle in and will do anything to fulfill that desire.

*The Round House* is the second book of Erdrich’s “Justice Trilogy.” It takes place in 1988. The story has Joe Coutts, a thirteen-year-old Ojibwe boy and the son of Antone Coutts from *The Plague of Doves*, investigating, with the help of his friends, the attack and rape of his mother, Geraldine. Like *The Plague of Doves*, *The Round House* tackles themes such as the colonial legacy and settler greed. For example, Linda Lark, the sister of Joe’s mother’s rapist, who is White, explains to Joe why her brother, Linden, raped Geraldine:

I saw the monster in my brother way back in the hospital and it made me deathly ill. I knew that someday he would let it loose. It would lurch out with


\(^{23}\) Madsen, 37.
part of me inside. Yes. I was part of the monster too. I gave and gave, but know what? It was still hungry. Know why? Because no matter how much it ate, it couldn’t get the right thing. There was always something it needed.\textsuperscript{24}

This passage refers to Anglo-American greed even though this book is set during a time when colonization is no longer the official policy yet violence against Native people continues.

*The Round House* connects to the *wiindigoo* and *The Plague of Doves* in addition to bringing in a sexual component to the monster. In this case, the *wiindigoo*, which is Linden Lark, robs Geraldine of her body through rape just as colonizers robbed Native people of their lands and cultures, often through sexual assault as well as other forms of violence. Once again, Erdrich is correcting the historical record regarding who suffers rape perpetrated by whom, as mentioned above regarding the newspaper’s report that the Spicer women were raped, an example of how Anglo-American culture has projected its own sexual sins on non-White people while facing no consequences for such actions. Seema Kurup observes, “Geraldine’s assault has to do as much with power as with brutal sexual violence. The perpetrator, Linden Lark, is a non-Native member of the surrounding community and carries out his assault with impunity, as the tribal courts are powerless to prosecute him.”\textsuperscript{25} This analysis links rape to theft of Native land and identity and also illustrates how helpless modern Native Americans are in the face of injustices that stem from colonialism. Although the action of taking Indigenous land is no longer official government policy, the legacy it has left behind is still active in the sexual assaults of Native American women. According to Amnesty International, “Native American and Alaska Native women are more than 2.5 times more likely to be raped or sexually assaulted than other women in the USA. . . . According to the U.S. Department of Justice, in at least eighty-six per cent of the reported cases of rape or sexual assault against American Indian and Alaska Native women, survivors report that the perpetrators are non-Native men.”\textsuperscript{26} *The Round House* and *The Plague of Doves* deliver Erdrich’s message of the struggles that Native people face in the modern world because of the legacy of the past. The fact that both of these books are connected in terms of themes and setting strengthens the delivery of the author’s message.

When *The Plague of Doves* switches from Evelina’s point of view to Antone’s, he tells Geraldine that the men who lynched the Natives very likely targeted the wrong people: “I told her that later on the vigilantes admitted that they were probably mistaken. She hadn’t known that.”\textsuperscript{27} Antone’s words can be linked to Beidler’s

\textsuperscript{25} Seema Kurup, *Understanding Louise Erdrich* (University of South Carolina Press, 2015), 66.
\textsuperscript{27} Erdrich, *Plague of Doves*, 92.
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Murdering Indians, which documents several different scenarios of what may have happened: two of the older Native men enlisted the help of Ireland and Holy Track; Black Hawk and Coudot committed the robbery in order to acquire whisky; Black Hawk was the leader of the massacre; or the five Native men had nothing to do with the massacre.\textsuperscript{28} Regardless of what could have occurred, the fact that Geraldine did not know what happened shows that she learned only one version of events, which, like Anglo-American history, was presented as objective truth. Later, near the end of the book, Cordelia Lochren, the lone survivor of the massacre, who grows up to become a doctor, is treating a senile man named Warren Wolde, who pays her a lot of money. At first, she believes that he is doing this because he is sympathetic about the loss of her family: “I could perhaps believe that the money gifts and the legacy were only marks of Wolde’s sympathy for the tragic star of my past, and later gratitude for what I had done. I might be inclined to think so, were it not for many small, strange truths.”\textsuperscript{29} Later, however, she realizes that the real reason Wolde was giving her the money was because he, and not the Native men, was the real killer of her family: “My last act as the president of Pluto’s historical society is this: I would like to declare a town holiday to commemorate the year I saved the life of my family’s murderer.”\textsuperscript{30} Even though the identity of the Spicers’ murderer remains a mystery, the way Erdrich makes a White man the real killer in her story brings up the possibility that the Native men who got lynched were scapegoats. In addition, Erdrich refocuses the audience’s attention onto the prevalence of settler violence against Native Americans, which historically was greater than Native violence.

Although overt forms of colonialism have given way to less obviously racist exploitation, the legacy of colonialism is still alive, with fragile relationships between Native Americans and non-Indigenous violence toward Native people, natural resources being taken from Native people and exploited, and the federal government’s lack of help to address the needs of Native Americans. These are all topics that Louise Erdrich’s The Plague of Doves, as well as The Round House, brings to the table. Even though physical violence directed against Indigenous people by White people is far less prevalent than in previous eras, that does not mean that Americans should put the past behind them. The past has led directly to unfortunate events such as those related in these novels, as well as the lingering effects, such as the ongoing sexual violence against Indigenous women. Horrific events like sexual assaults and violence against Native people still happen today and will continue to occur if something is not done to better address the needs of the Indigenous populations, beginning with an honest assessment of the past that foregrounds Indigenous voices.

\textsuperscript{28} Beidier, 2–3.  
\textsuperscript{29} Erdrich, Plague of Doves, 310.  
\textsuperscript{30} Erdrich, Plague of Doves, 311.
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AIR TEMPERATURE AND DIET ARE NOT ASSOCIATED WITH OXYGEN CONSUMPTION RATE IN BANDED CRICKETS, *Gryllodes sigillatus*

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Abstract

All living organisms acclimate to their environments, with ectothermic species particularly susceptible to environmental change, specifically temperature. Ectothermic insects like crickets directly alter their physiological processes depending on the environment in which they live. Temperature is vital in regulating processes such as metabolism, respiration, and reproduction, among other things. What remains unclear is how a change in the environment, specifically extreme temperature change and dietary alterations, affects physiological processes. In this study, we performed experiments on ectothermic banded crickets to examine the effects of temperature change and the interaction of temperature and diet on oxygen consumption. For both experiments, we found no effect of temperature change or diet on oxygen consumption, and we were unable to correlate diet or temperature to oxygen consumption rate. We recommend more research to fully understand how temperature change and diet affect oxygen consumption rate.

*Keywords*: crickets, banded crickets, ectotherms, oxygen consumption, extreme temperature, diet, environment, heat

Introduction

Temperature is an important environmental factor that controls and influences the physiological and biological processes in all living organisms. Temperature is particularly important for ectotherms, as they are dependent on the temperature of the external environment to support their internal temperature (Martin & Huey, 2008). Ectotherms’ movement, adult size, reproduction, feeding, digestion, and patterns of daily activity are all affected by temperature (Nespolo et al., 2003). For example, cricket larvae maintained at high temperatures increase food consumption, growth, and oxygen consumption (Roe et al., 1985). There may be a ceiling to this effect, however, as higher temperature initially increased food intake over 9 days in skinks (*Eumeces elegans*), but at higher temperatures, food intake
declined over the same time (Du et al., 2000). As such, there is a link between the temperature of the environment and the organism’s metabolic rate.

The increase in global temperature has driven average temperatures up and created unpredictable swings in temperature. Some ectotherms use acclimation as a process to respond to thermal change (Booth, 1998; Randall et al., 2002). In some cases, however, a significant increase in temperature can be too overwhelming for an ectothermic organism to overcome (Martin & Huey, 2008). The continuous increase of average temperature has seemingly shown a response in insects, reflected by changes in their physiological, biochemical, and molecular attributes. These changes can lead to a series of disorders in insects, from protein denaturation to changes in the fluidity of their membranes (Ma et al., 2021). Although it is understood that insects can acclimate to ambient temperatures (Martin & Huey, 2008), it remains unclear how unpredictable or dramatic temperature changes affect insect physiology.

Similarly, other factors such as a lack of or variation in specific nutrients can also alter metabolic and physiological processes. Specifically, a previous study found that variation in nutrients can modulate metabolic rate in mammals (Bozinovic et al., 2007). In addition, endothermic species exposed to low food availability and/or predictability developed low basal metabolic rate, whereas species fed diets consistently high in vertebrates, herbs, nuts, pollen, and nectar developed a high basal metabolic rate (Cruz-Neto & Bozinovic, 2004). In a different study, a decrease in walking stick insects’ caloric intake led to a decrease in resting metabolic rate (Roark & Bjorndal, 2009). Likewise, ambient temperature may also interact with diet to modulate metabolic rate in insects (Adamo et al., 2012; Roark & Bjorndal, 2009). Crickets exposed to a six-day heat wave had a lower standard metabolic rate than did those in benign conditions of optimal temperature and ad-lib food, suggesting these conditions promote metabolic activity (Stahlschmidt & Glass, 2020). Taken together, it appears there is a relationship among ambient temperature, food quality/quantity, and metabolism.

Although previous studies have demonstrated that temperature and diet affect metabolic rate in insects (e.g., Adamo et al., 2012; Roark & Bjorndal, 2009; Roe et al., 1985; Stahlschmidt & Glass, 2020), these studies typically have housed animals for at least one week at their treatment temperatures before assessing changes in metabolic processes. As such, the effects of extreme temperature change and diet on oxygen consumption in the short term before acclimation remain unclear. As has been demonstrated in fish (Schulte et al., 2011), acute exposure to increased temperature increases metabolic activity but longer exposure times either stagnate or decrease metabolic activity. Because previous studies in insects have used longer exposure times, it is unclear if the same short-term effect occurs in insects. In this study, we therefore designed two experiments to examine the influence of short-term extreme temperature changes and the interaction of diet and temperature on oxygen.
consumption rate in adult banded crickets (*Gryllodes sigillatus*). We hypothesized that extreme changes in temperature would initially increase cricket oxygen consumption rate, before acclimation and downregulation of metabolism. We also hypothesized that a decrease in diet quality would lead to a decrease in oxygen consumption because of the positive relationship between diet and metabolic rate. If crickets are provided with a diet with diverse macromolecules, oxygen consumption should increase, and this may be modulated by variation in temperature, although we did not have a priori predictions regarding directionality of the effect.

**Materials and Methods**

In this study, male and female ectothermic banded crickets were obtained from a commercial vendor (www.ghanns.com), shipped to the laboratory at Penn State Altoona, and placed into 10-gallon lidded tanks with cardboard egg crates as a hide, ad-lib cat food, and water in a gel form to prevent desiccation and drowning. For the experiments, individual crickets were randomly chosen from the large enclosure and randomly assigned to smaller experimental enclosures. Each enclosure was a clear plastic lidded tank (22 cm x 13 cm x 14.5 cm) with cardboard egg crate material to serve as a hide, a cup of gel water, and ad-lib cat food.

For both experiments, all enclosures were placed in the same animal care room at Penn State Altoona. In this room, the ambient temperature was maintained at 24 °C. A previous study determined that most tropical *Gryllodes* crickets were trapped in the field when the temperatures were between 20 °C and 30 °C (Smith & Thomas, 1988), suggesting that 24 °C is in the middle of the preferred microclimate for tropical crickets. The overhead fluorescent lights were on a 12-hour-on/12-hour-off cycle for all animals. The groups assigned to the control temperature were placed on a table in the room and subjected to 24 °C for the duration of the experiments. The crickets designated for exposure to high temperatures (35 °C) were placed under a 40-watt light source with an 8-hour-on/16-hour-off cycle to raise temperature. Doing so raised the temperature of the enclosures to 36 °C at the peak temperature of the 8-hour cycle; this represented a higher temperature reflective of a heat wave (Adamo & Lovett, 2011). Although the additional light source may have affected metabolism, it is unlikely, as this species is nocturnal and isn’t very active during the light portion of the light cycle (Sultana et al., 2021). Finally, for both experiments, every time the oxygen consumption was measured, it was recorded at room temperature, which was roughly 21 °C.

In Experiment 1, we tested the effects of extreme temperature changes on oxygen consumption rate over 4 days. In this experiment, we had three treatment groups, each with three replicates: a control, a control-to-hot, and a hot-to-control treatment (see descriptions below); each enclosure had 10 crickets (*n* = 90 total crickets). Food and water were available ad lib throughout the experiment and were
checked every two days to be replenished as needed. For the control group, all individuals were maintained at 24 °C for the 4 days of the experiment. For the control-to-hot treatment, to simulate a dramatic increase in temperature, the enclosures were placed at the control temperature (24 °C) for two days, then moved to the hot temperature (35 °C) for the next two days. Finally, for the hot-to-control treatment, enclosures were held at the hot temperature (35 °C) for two days, then switched to the control temperature (24 °C) for the final two days. The inclusion of this treatment group was important for assessing if the effects of temperature change are uni- or bidirectional. Oxygen consumption was assessed twice: after two days at the first temperature, then after two days at the second temperature.

In Experiment 2, we tested for the interaction of high temperature and diet on oxygen consumption rate. We tested three diet quality types (control, low quality, and high quality; see below for diet details) at a high temperature (35 °C) to assess if diet and high temperature interact to change the oxygen consumption rate.

Although data on food preferences in the wild is sparse, a previous study found that *Gryllodes* are omnivorous, and wild crickets mostly eat organic debris, larvae, flowers, seeds, leaves, and fruits (Gangwere, 1961). Further, captive-bred crickets also increase biomass and demonstrate a preference for foods that vary in nutritional composition, with higher percentages of protein and carbohydrates (Harrison et al., 2014; Morales-Ramos et al., 2020). As such, diet quality was determined by these parameters. The control diet consisted of commercially available cat food, representing most macromolecules and some minerals, but not formulated specifically for insects. The low-quality diet consisted of only apple, which lacks protein and other essential minerals such as calcium. The high-quality diet consisted of apple, kale, and hard-boiled egg. This was determined to be a high-quality diet because of the high diversity of macromolecules, high protein, and minerals. Although this diet did not appear to vary much in terms of macromolecules compared to cat food, it was also fresh and easily digestible in relation to the cat food (Geluso & Hayes, 1999); we therefore classified this diet as the highest quality of the three diet treatments. The high- and low-quality diet foods were chopped in a food processor for 20 seconds to ensure consistent presentation of food size.

We had four treatment groups with three replicates each (n = 120 crickets total): control (temperature and diet), high temperature/high-quality diet, high temperature/control diet, and high temperature/low-quality diet. Individuals were subjected to their treatment groups for 48 hours, which has been shown to be enough time for dietary changes to alter physiology (Finke, 2003). Oxygen consumption was assessed immediately before housing in experimental enclosures and at the conclusion of the 48-hour treatments.

For assessment of oxygen consumption in both Experiments 1 and 2, the crickets were removed from their enclosures and oxygen consumption was
determined using a respirometer (Carolina Biological Supply); all measurements were taken at room temperature to maintain consistency. Briefly, crickets were placed into the respirometer of the test tube, and oxygen consumption was assessed for 20 minutes. Crickets were then returned to their enclosures. Average oxygen consumption was calculated, due to some mortality across the days of the experiment.

We used a repeated measures analysis of variance (ANOVA) to compare changes in average oxygen consumption due to treatment, at the two time points in each experiment. To determine if treatment group differentials affected mortality, we ran repeated measures ANOVA on the number of individuals at the beginning and end of the experiment. All analyses were conducted with SPSS for Windows, v. 27 (IBM Corp.), and we considered results to be statistically significant if $p \leq .05$.

**Results**

For Experiment 1, we found that all data conformed to the assumption of homogeneity of variances (Levene’s test, all $p > .285$). We found no differences in oxygen consumption between the two time points of the experiment ($F_{1,8} = 0.612, p = 0.464$), and no statistically significant effect of the interaction of treatment and oxygen consumption ($F_{2,6} = 0.899, p = .455$; Figure 1). Mortality did not differ based on treatment ($F_{2,8} = 3.00, p = .125$).
Figure 1. Experiment 1 Oxygen Consumption With Exposure to Short-Term Extreme Temperature Changes

Note. This figure demonstrates the average oxygen consumed (mL) over 20 minutes after 2 days of exposure at the first temperature (either control 24 °C or hot 36 °C) and 2 days after switching to a new temperature (either hot or control). No significant differences were found between the two time points or among the treatment groups, and no interaction between time point and treatment group (all $p > .05$).

In Experiment 2, homogeneity of variances was assessed with Levene’s test and data were square root-transformed to conform to the assumption (all $p > .066$ after transformation). We found no difference in oxygen consumption at the beginning and end of the experiment ($F_{1,8} = 0.569, p = .472$) and no statistically significant effect of the interaction of treatment and oxygen consumption ($F_{3,8} = 2.055, p = .185$; Figure 2). Although we did find a decline in the number of individuals over the time points of the experiment ($F_{1,3} = 189.0, p < .001$), mortality did not differ based on treatment ($F_{1,3} = 0.810, p = .523$).
Figure 2. Experiment 2 Oxygen Consumption With Exposure to Either Control (24 °C) or High Temperature (36 °C) and Low-, Normal-, or High-Quality Diet

Note. This figure demonstrates the average oxygen consumed (mL) over 20 minutes immediately before crickets were housed in the treatment groups (pretreatment) and 2 days after being housed in the temperature and diet treatment groups (posttreatment). No significant differences were found between the two time points or among the treatment groups, and no interaction between time point and treatment group (all $p > .05$).

Discussion

For both experiments, when crickets were exposed to high temperatures, we expected extreme short-term temperature changes to affect the metabolism/oxygen consumption rate. Further, we expected diet to interact with temperature to affect oxygen consumption in the second experiment. However, the results from the first experiment indicated no statistically significant differences in oxygen consumption when crickets experienced transitions to different temperatures. Similarly, the
results of the second study indicated no significant differences in oxygen consumption based on the interaction between temperature and diet.

In the first experiment, we predicted that extreme changes in temperature, particularly moving from control to high-temperature conditions, would lead to an increase in oxygen consumption. We did not find variation in oxygen consumption when individuals were moved between extreme temperatures, therefore rejecting our hypothesis. These results could potentially be explained by thermal plasticity, in which insects have some degree of thermal tolerance, shown in the field by individuals at range expansion boundaries (e.g., Carbonell et al., 2021). This may suggest that thermosensitivity and thermoregulation can vary as ectotherms acclimate to their environments, leading to a range of suitable living temperatures for such insects (e.g., Angilletta, 2009). The ability to adjust to temperature variation also appears to be species-specific in some insect species, however, such that some species can tolerate temperature variability while others cannot (e.g., Shah et al., 2021). The species in our study may tolerate temperature change fairly well, at least compared to other insects. It may be that factors such as 2 days at the temperature or the degree of the temperature change were able to be tolerated and thus were not sufficient to induce any changes in oxygen consumption. An alternative explanation may be that oxygen consumption did not change but that other trade-offs occurred, such as reproduction and immunity that do trade off with changes in temperature (Adamo & Lovett, 2011) that were not measured in this study. As such, further research may help to determine if other experimental parameters may affect oxygen consumption rate or other physiological processes.

In the second experiment, we expected that crickets provided a lower-quality diet would have a lower oxygen consumption rate than those in the control group and that when provided a higher-quality diet, they would have a higher oxygen consumption rate. Contrary to our prediction, the increased temperatures and diets had no effect on the oxygen consumption rate of the crickets. Unlike in our study, a previous study found that species fed diets high in vertebrates, herbs, nuts, pollen, and nectar developed a high basal metabolic rate (Cruz-Neto & Bozinovic, 2004), which may suggest that some factor that differed between our study and theirs contributed to our opposing results. Alternatively, a previous study in fish found that diet quality and temperature interact to differentially affect physiology. Specifically, sprint speed and maximum metabolic rate were insensitive to diet and temperature while growth rate was altered with temperature and heart rate was affected by the interaction of diet and temperature (Hardison et al., 2021). The results of this study suggest that diet, temperature, and the interaction of the two do not equally affect physiological outputs and may even demonstrate species-specific differences. Taken together, it may be that diet and temperature may have been affecting metabolism in our study but we did not measure enough physiological variables to demonstrate a link between physiology and temperature and diet.
Although we examined only diet quality in our study, other studies have demonstrated that varying other diet parameters can alter metabolic rate. In some previous studies, species exposed to low food availability and/or predictability developed lower basal metabolic rates (Cruz-Neto & Bozinovic, 2004; Hoogenboom et al., 2013). In a study using walking sticks, Carausius morosus, individuals exposed to a decreased caloric intake showed a diminished resting metabolic rate and increased longevity but delayed development (Roark & Bjorndal, 2009). Although we did not see an effect of diet quality on oxygen consumption, it may therefore be that altering a different dietary factor might induce metabolic changes such as oxygen consumption and might be a better reflection of the link between diet and metabolism.

Relating temperature to diet, in a previous study, crickets with access to ad-lib food and exposed to higher temperatures produced more eggs, suggesting that adequate food and increased temperature can be physiologically beneficial (Adamo et al., 2012); however, crickets exposed to a heat wave developed a lower metabolic rate than those in optimal conditions of 24 °C, suggesting that short-term changes in ambient air temperature can also lower metabolic rate, at least in larvae (Stahlschmidt & Glass, 2020). Our study found that exposing crickets to a lower-quality diet did not affect the oxygen consumption rate of crickets in higher temperatures. It also did not align with previous findings that exposing crickets to higher temperatures caused variation in oxygen consumption rate. Our hypotheses were rejected, but further research may help to determine the influence of temperature and diet on metabolic processes and may relate to some of the factors outlined for Experiment 1.

Future experiments could elucidate why there were differences between our study and others. For example, we did not measure change in mass of either the crickets or the food, which may have yielded more precise results. Similarly, water content in the diet was not assessed but may also affect a cricket’s assessment of a “high quality” food item. Additionally, variation in time periods could possibly affect the results. Although we assessed after 48 hours, a shorter (or intermediate) time frame may yield different results. For example, if this species either acclimates very quickly or demonstrates thermal tolerance, we would see effects on a shorter time scale or not at all, respectively. Finally, our experimental enclosures experienced some mortality, which could mean that our postexposure readings included only those individuals who survived the shift in temperature and diet. Future studies could vary any of the aforementioned variables to gain a better understanding of the relationship among temperature, diet, and metabolic processes.
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References


EFFECTS OF ANTHROPOGENIC NOISE ON BODY MASS IN
*GRYLLODES SIGILLATUS*

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Abstract

Insects use vibrational structures to produce and sense airborne sounds in intraspecific communication. These signals are important in courtship as well as defensive behavior against predators. For example, insects can detect the presence of nearby predators using vibrations. With an increase in anthropogenic activity, processing these signals and the constant threat they represent may increase stress on insects, subsequently affecting their behavior and physiology. Our experiment was designed to determine whether anthropogenic noise, possibly perceived as a stressor, will decrease the body mass of banded crickets, *Gryllodes sigillatus*. We predicted that the anthropogenic noise would stress the crickets, leading to a decrease in body mass and increase in mortality rate. In this study, we subjected crickets to three different levels of anthropogenic activity for three days: high, low, and negligible. We found no significant difference in body mass or mortality throughout the duration of the experiment.

*Keywords*: crickets, anthropogenic noise, food intake, weight, body mass, stress

Introduction

Anthropogenic noise is a harmful global pollutant that is disruptive to many species. It differs from natural noise (wind, water) in that it’s typically spontaneous, louder, more frequent, and more intense (Kight & Swaddle, 2011). In terrestrial environments, expansion of roadways and transportation, along with increases in natural resource extraction, have become common sources of noise pollution (Barber et al., 2010). As anthropogenic noise has increased with expanding populations and development, research has highlighted its effect on animal behavior, physiology, and resultant reproductive success (Kight & Swaddle, 2011).

Humans and animals alike are affected by exposure to anthropogenic noise through its effects on physiology and behavior. In humans, links have been found to impaired cognition, disrupted sleep, increased coronary disease risk, and impairment of the endocrine system (Morley et al., 2014). In fish, eggs and embryos experienced
increased mortality in these noisy environments, along with slower growth rates for those that survived (Banner & Hyatt 1973). As a result of anthropogenic noise, animals may also increase hiding behaviors and alertness, increasing energy costs and leaving less time for foraging. In rats, exposure to 30 days of anthropogenic noise led to decreased food intake and decreased body mass (Alario et al., 1987). Noise-stressed brown shrimp ate less food and gained less mass compared to those that were not exposed to noise stress (Lagardère, 1982). Similar results were found in seahorses, with noise stress being linked to decreased mass and overall condition (Anderson et al., 2011). These results suggest that anthropogenic noise has a physiological and behavioral impact on many species.

Crickets and other insects use visual, auditory, olfactory, or other cues to detect stimuli in their environments. These cues are important for con- and heterospecific interactions, specifically allowing species to adapt their behaviors for self-preservation (Coss, 2019) and to increase mating opportunities (Virant-Doberlet & Cokl, 2004). In the context of predation in particular, auditory cues can be detected over long distances, allowing for proactive responses to predator cues (Breviglieri & Romero, 2019). Predator detection can induce phenotypic changes in prey that increase the chance of survival. These induced traits can be physiological, behavioral, developmental, or morphological but come at a high energy cost (Werner & Peacor, 2003). Species decrease their food intake when they detect a predator, resulting in a decreased growth rate in the presence of predators (McPeek et al., 2001). For example, grasshoppers exposed to non-lethal predators consumed forbs, which were safer to eat but not as energetically rewarding as grasses. This energy debt led to an increased mortality rate (Beckerman et al., 1997). It is possible that crickets would interpret anthropogenic noise as potential predator cues, which would increase stress, leading to decreased food intake, decreased body mass, and increased mortality rate.

Much of the current research on anthropogenic noise in insects focuses on the masking of these acoustic signals, but the effects of this noise stress on physiology is not often considered, despite its known physiological effects on other species. The goal of this study is therefore to investigate the effects of various levels of anthropogenic noise on body mass in Gryllodes sigillatus (banded crickets). It’s possible that the crickets use auditory and vibrational communication to sense anthropogenic activity nearby, which potentially induces stress when detected (Virant-Doberlet & Cokl, 2004). We predicted that three days of exposure to anthropogenic noise would cause stress in crickets, affecting feeding behavior and subsequent mass and mortality. Further, we predicted that if the crickets from the treatment groups were exposed to higher levels of anthropogenic noise than were the crickets in the control group, the former groups of crickets would have lower body mass and higher mortality.
Materials and Methods

The crickets used in this experiment were raised and shipped from a commercial vendor (www.ghanns.com). Once received, individuals were housed in a 10-gallon tank at ambient light and room temperature, with cardboard egg cartons as hides and with ad-lib food (commercial dry cat food) and gel water.

This experiment consisted of two treatment groups and one control group. One treatment group (Busy) was exposed to the presence of human activity in a classroom, for 269 person-hours per week and 78 unique people. The other treatment group (Less busy) was exposed to lower levels of human activity in a research laboratory, for 24 person-hours per week and 4 unique people. The control group (Control) was isolated and exposed to 0 humans and 0 hours of human activity in a separate animal care room. These numbers of human contacts and human activity hours do not include exposure to the experimenters during the feeding and data collection times, which was consistent across all three groups.

Each of the three treatment groups had four replicate containers (22 cm x 13 cm x 14.5 cm), with five banded crickets per container (n = 60 total, n = 55 at the conclusion of the study). Each container was provided ad-lib commercially available cat food, water gel, and egg carton hides. Containers were housed under a 40-watt heat lamp with a 12-hour on/off cycle, which was used to provide light and maintain the circadian rhythm. Data were collected for 3 days, as it has been demonstrated that 3 days is sufficient for induced stress to affect body mass in crickets (Adamo & Baker, 2011). The body mass data were collected every day using a precision balance scale. The mass of all live crickets per container was measured, then the average body mass was calculated.

We analyzed the change in average body mass between the first and last days of treatment. Levene’s test confirmed that change in average body mass conformed to the assumptions of equality of error variances (p = .772); we therefore used a one-way analysis of variance (ANOVA) to assess the effects of treatment on body mass. We also assessed mortality among the treatment groups. The data were not normal, even after transformation (Levene’s test, p = .001). Consequently, we used a nonparametric independent-sample Kruskal-Wallis test to assess the effect of treatment on mortality. All analyses were conducted with SPSS (version 25.0, IBM Corp., Armonk, NY, USA) with an α = 0.05.

Results

We found that after 3 days, there was no significant difference in the change in average body mass across the three treatments (F_{2,8} = 0.320, p = .735; Figure 1).
There was also no significant difference in mortality among the treatment groups ($H_2 = 0.169, p = .919$).

![Figure 1. Average Change in Mass Among Treatment Groups](image)

*Note.* No significant differences in mass existed among treatment groups.

**Discussion**

Our results did not support our prediction that crickets exposed to anthropogenic noise would have a lower body mass and higher mortality rate. The Busy treatment group had the largest average change in mass, at $-0.011g$, but this change was not significantly different from the Less busy and Control groups. Further, mortality was not significantly different among the treatment groups. Based on these results in the context of this study, we reject our hypothesis that anthropogenic noise negatively affects body mass and mortality.

There may be several explanations that might inform our results. First, the captive crickets used for this experiment may have already been acclimated to anthropogenic noise, therefore receiving no additional stress from the presence of humans. These crickets were reared by humans and thus have experienced anthropogenic noise for generations. It’s been shown that auditory neurons of crickets demonstrate sensory habituation, with trains of sound pulses leading to a decline in response strength (Givois & Pollack, 2000). These captive-bred crickets may therefore have habituated to any anthropogenic noise arising from human interactions.
An alternative possibility is that the noise environment in our study was sensed but not perceived as stressful to the crickets. Previous studies noted that the effects of noise stress were found between 85 and 130 dB (Anderson et al., 2011; Kight & Swaddle, 2011). Although we did not measure noise level in the rooms in this study, a previous study found that an occupied K–12 classroom during the day had an average noise level of 60.75 dB that dropped to 43.55 dB at night and on the weekends (Gremp & Easterbrooks, 2018). The noise level in our classroom therefore may not have been high enough to negatively affect cricket body mass. Similarly, it’s possible that because these crickets received resources from humans, they have adapted physiologically and behaviorally to no longer seeing humans as predators.

Although it’s been shown that the detection of predator cues leads to changes in behavior that affect food consumption and metabolism (Beckerman et al., 1997; McPeek et al., 2001; Werner & Peacor, 2003), it’s also been noted that prey alter other physiological and behavioral attributes to contend with predation. For example, when exposed to a predator, tobacco hornworm caterpillars reduced feeding by 30%–40%, but developed more quickly, gaining the same mass as unthreatened caterpillars (Thaler et al., 2012). This accelerated development, accomplished through greater efficiency at extracting nitrogen from their food source, allowed them to move through vulnerable larval stages and decrease risk of predation (Thaler et al., 2012). Alternatively, some studies that analyzed the link between noise stress and mass found that stressed individuals gained less mass than nonstressed individuals but gained mass, nonetheless (Anderson et al., 2011; Banner & Hyatt, 1973; Lagardère, 1982). Perhaps noise stress doesn’t always decrease feeding behavior to the point of mass loss but enough to deplete energy reserves allotted for growth, which would be more evident over time. As such, the crickets in our study may have a compensatory mechanism that we didn’t measure that allows them to maintain mass while decreasing food intake during periods of stress.

Finally, the sample size in this study was relatively low (four replicates per treatment group), and we therefore may not have had the power to detect smaller effects of human activity on cricket body mass, if they exist. Previous studies that found physiological and behavioral changes in response to noise had larger sample sizes than this study (Adamo & Baker, 2011; Anderson et al., 2011); therefore, it may be a lack of power to detect differences, and an increase in sample size may provide more clarity in future studies. Further, in the future, this experiment could benefit from replication over a longer period and at a higher decibel noise level to garner a more comprehensive picture of the impact that chronic anthropogenic noise stress has on mass.
References


