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Roses are Red: Women's Emergent Empowerment in World War II by Avani Haden

It's Fall of 1945, one can imagine crisp golden-brown leaves crunching under Edith Speert's feet as she eagerly rushed to grab her pen and paper, filled with anticipation as she could not wait to tell her husband the exhilarating news: "I must admit I'm not exactly the same girl you left—I'm twice as independent as I used to be and to top it off, I sometimes think I've become as 'hard as nails'—hardly anyone can evoke any sympathy from me."[1] For the first time, Edith Speert, like many other women during World War II, had the opportunity to join the workforce and step outside of her designated domestic sphere. When the men left to fight in the war, the women had to learn self-sufficiency, living without the aid of men. Consequently, they gained skills, at the time, considered unconventional for women. American society encouraged women to believe that their traditional role could change as they gained new job opportunities in more traditionally male-dominated fields.[2] These working women threatened the patriarchal ideal of men as "providers" and women as "homemakers." Further threatening this ideal, the government portrayed women's new roles in the workforce as patriotic and necessary. For the first time, women not only served in the work force but also in the U.S. military.[3] Hundreds of these women expressed their deepest sentiments and input on their expanding societal role through passionate letters to family members, husbands, and children. Throughout the course of World War II, letters written by women recounting their experiences and emotions reveal the war's empowerment of women and their newfound sense of independence.

To fully comprehend and immerse oneself in the unique perspective of these women writers, discussing general research about women during World War II can help set the stage for a deeper understanding of the events that led to their empowerment and independence.

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[1] Judy Barrett Litoff and David C. Smith, "U.S. Women on the Home Front in World War II," Historian 57, no. 2 (Winter 1995): 349. https://search.ebscohost.com/login.aspx?direct=true&db=khh&AN=9502164425&site=hrc-live.

[2] "History at a Glance: Women in World War II: The National WWII Museum: New Orleans," History at a Glance: Women in World War II, The National WWII Museum | New Orleans, Accessed October 5, 2021, https://www.nationalww2museum.org/students-teachers/student-resources/research-starters/women-wwii.

[3] "Gender on the Home Front: The National WWII Museum: New Orleans," The National WWII Museum | New Orleans, The National World War II Museum, July 11, 2018, https://www.nationalww2museum.org/war/articles/gender-home-front.

Understanding the experiences and opportunities that enabled women to reach their full potential allows the audience to comprehend the context in which women wrote these letters and how that context influenced and altered their outlook on themselves and the nation. If necessity is the mother of invention, then the necessity brought on by the absence of men provided the foundation for the changing tide of opportunity for women in World War II.

An image of such empowerment and a face referred to by many as the "Face of the Feminist Movement," Rosie the Riveter, a female icon in the propaganda of World War II, inspired women to step out of their homes and into the workforce. Created as a work incentive poster for Westinghouse Electric and Manufacturing Company, Rosie the Riveter's image struck feelings of strength and patriotism into the hearts of American women.[4] Part of the "Women in War Jobs" campaign, the advertising industry's most fruitful recruitment campaign in the United States, Rosie the Riveter intended to change the American people's attitude about women's work.[5] Flaunting her polka-dot bandana and muscular bicep, she showed women that they could retain their beauty while remaining strong and fierce. Her image sparked a social movement that inspired almost one in four American women to hold income-earning jobs.[6] This encouragement for women to participate in the workforce created a shift in home dynamics that would forever alter the woman's role, and for the first time, America looked upon women as patriotic and essential members of society.[7] In addition to home-front jobs and factory work, women joined the armed forces, a field in which they had never worked before in large numbers. At the advising of First Lady Eleanor Roosevelt, Congress founded the Women's Army Corps whose members held more than two hundred non-combatant jobs at home and abroad. Another lesser-known women's branch in the Army included the Women's Airforce Service Pilots (WASPs) whose members served as the first women to pilot American military aircraft. America,

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[4] "Rosie the Riveter: The Face of the Feminist Movement," 4A's, American Association of Advertising Agencies, March 30, 2017, https://www.aaaa.org/timeline-event/rosie-riveter-face-feminist-movement/?cn-reloaded=1.
[5] "Rosie the Riveter Oral Histories," Women's History, National Women's History Museum, 2017, https://www.womenshistory.org/resources/general/rosie-riveter-oral-histories.
[6] "Rosie the Riveter: The Face of the Feminist Movement," 4A's, American Association of Advertising Agencies, March 30, 2017, https://www.aaaa.org/timeline-event/rosie-riveter-face-feminist-movement/?cn-reloaded=1.
[7] María Cristina Santana, "From Empowerment to Domesticity: The Case of Rosie the Riveter and the WWII Campaign," Frontiers, Frontiers, December 23, 2016, https://www.frontiersin.org/articles/10.3389/fsoc.2016.00016/full.

unfortunately, solely considered these brave women as civil service employees, denying them military status, honors, and benefits until 1977.[8] Even with the immense progress made towards greater equality and Rosie the Riveter's symbolizing the emergent power and independence of the women of World War II, discrimination denied women equality in the Army.

Women chose to wear more masculine and practical clothing for their wartime jobs, a style of clothing that allowed them more physical freedom and portrayed them as stronger and more empowered.[9] For the first time, trousers became accepted as a regular clothing item in a woman's wardrobe. To American society and the women who wore them, trousers were a statement of independence and equality to men. Women also sought to enhance their individuality by wearing new styles of hats. Women's hats during World War II closely resembled men's hats and tended to have militaristic features. Women had an overwhelming desire to appear beautiful and strong, heavily contrasting the previous feminine ideal where women remained attractive but weak.[10] Women adapted their clothing to their new working conditions, trading in their high-heels and skirts for khaki jackets and blue jeans, as pragmatism and safety took precedence over femininity and opulence.[11] Even in women's makeup, the style changed from soft and feminine to bold and strong. New lipstick colors such as "Victory Red, Patriot Red, and Orange Flame" grew increasingly popular in *Vogue* and in other women's magazines.[12] In America, wearing red lipstick grew into a symbol of patriotism and a statement against fascism. Many women in the US Army wore "Montezuma Red" lipstick and nail polish

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[8] History.com Editors, "Rosie the Riveter," History.com, A&E Television Networks, April 23, 2010, https://www.history.com/topics/world-war-ii/rosie-the-riveter.

[9] Mary Weaks-Baxter, Christine Bruun, and Catherine Forslund, *We Are a College at War: Women Working for Victory in World War II* (Carbondale, IL: Southern Illinois University Press, 2015), 94.

[10] Meghann Mason, "The Impact of World War II on Women's Fashion in the United States and Britain" UNLV Theses, Dissertations, Professional Papers, and Capstones. UNLV University Libraries, 2011. https://digitalscholarship.unlv.edu/cgi/viewcontent.cgi?article=2391&context=thesesdissertations.

[11] Jessica Kratz, "Shorter Skirts and Shoulder Pads: How World War II Changed Women's Fashion," National Archives and Records Administration, Word Press, September 8, 2014, https://prologue.blogs.archives.gov/2014/09/08/shorter-skirts-and-shoulder-pads-how-world-war-ii-changed-womens-fashion/.

[12] Mary Weaks-Baxter, Christine Bruun, and Catherine Forslund, *We Are a College at War: Women Working for Victory in World War II* (Carbondale, IL: Southern Illinois University Press, 2015), 94.

while serving in the armed forces.[13] Wearing these bold colors allowed women to have a sense of individuality and self-identity, linking the color red to feminine self-esteem and confidence and symbolizing women's emerging independence and their desire for individuality and strength.

Another realm where women could exercise their individuality included the domestic world of food production and conservation, and in doing so, they found a way not only to influence the war situation but also to prove the value of their participation in the war effort.[14] After men left the farm to join the military or to partake in another war occupation, the United States Department of Agriculture (USDA) needed to find new ways to fill increasing labor shortages. Consequently, Eleanor Roosevelt pushed Congress to establish the Women's Land Army of America, later renamed as the Women's Land Army (WLA). Most of the women who joined had no prior experience of working on a farm, but they quickly learned how to drive tractors, plow fields, and plant and harvest crops. The WLA "farmerettes" received equal pay to male farm laborers and farmers began to rely on WLA workers.[15] Additionally, the Extension Services of the USDA sent home demonstrators such as Florence L. Hall, the director of Women's Land Army, and Grace E. Frysinger, a woman who held leadership in agricultural organizations nationally,[16] to rural agricultural provinces to educate families about home economics and how to conserve and use food wisely.[17] As well as the Extension Services home demonstrators, canning centers grew increasingly vital to Americans on the home-front.[18] Canning propaganda and efforts to provide sustenance gave women the sense that they were

[13]Jacqui Palumbo, "Empowering, Alluring, Degenerate? the Evolution of Red Lipstick," CNN Style, Cable News Network, March 3, 2020, https://www.cnn.com/style/article/red-lipstick-history-beauty/index.html.

[14] Mary Weaks-Baxter, Christine Bruun, and Catherine Forslund, *We Are a College at War: Women Working for Victory in World War II* (Carbondale, IL: Southern Illinois University Press, 2015), 94.

[15] Elaine F. Weiss "Before Rosie the Riveter, Farmerettes Went to Work," Smithsonian Magazine, Smithsonian Institution, May 28, 2009, https://www.smithsonianmag.com/history/before-rosie-the-riveter-farmerettes-went-to-work-141638628/.

[16] "Grace Frysinger," Women's History, National Women's History Museum, 2017, https://www.womenshistory.org/education-resources/biographies/grace-frysinger.

[17] "Food Rationing and Canning in World War II," National Women's History Museum, September 13, 2017, https://www.womenshistory.org/articles/food-rationing-and-canning-world-war-ii.

[18] "Food Rationing and Canning in World War II," National Women's History Museum, September 13, 2017, https://www.womenshistory.org/articles/food-rationing-and-canning-world-war-ii.

"soldiers" as well, fighting the enemy in their own way and battling against waste and misuse on the domestic front.[19]

Not only did white women participate in the war effort, African American women also played an integral role. Throughout the existence of the Women's Army Corps, about 6,500 African American women served.[20] Eight-hundred and fifty-five women served in the first only all-Black Women's Army Corps unit to station in Europe during the war. This 6888th Central Postal Directory battalion, also known as Six Triple Eight, had a mission that included sorting an overwhelming backlog of letters and care packages that had been building up for years. This African American Battalion held a crucial role in the war effort as Americans considered mail as a lifeline and morale booster, and it served as a reminder of their home and their country. Many African American women proudly enlisted in the Army because of a patriotic sense of duty to the country despite the continuing segregation in America, and they searched for opportunities previously restricted to the white population.[21] For many white women, the war presented amazing opportunities; however, African American women still had to fight for consideration as assets to the war effort.

While these general developments reveal various women's influence on the war effort, listening to the voices of the individual "Rosies" of the war can reveal the women's true emotions and perspectives. Often in historical texts, specific groups are painted with a broad brush, missing the exquisite detail of the individual. Preserving and studying these letters honors the women and their bravery in the face of change as they rose to the challenge and answered the call of duty. The war letters of American women highlight the true essence of the immense societal transformation and uncover the most intimate details in their lives. They supply ample documentation of women's active engagement in the war and vividly display women's increasing

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[19] Mary Weaks-Baxter, Christine Bruun, and Catherine Forslund, *We Are a College at War: Women Working for Victory in World War II* (Carbondale, IL: Southern Illinois University Press, 2015), 94.

[20] Carrie Hagan, "Seventy-Five Years Ago, the Military's Only All-Black Female Band Battled the War Department and Won," Smithsonian Magazine, Smithsonian Institution, March 28, 2019, https://www.smithsonianmag.com/history/seventy-five-years-ago-militarys-only-all-black-female-band-won-victory-against-war-department-180971815/#:~:text=During%20the%20three%20years%20of,Corps%20unit%20to%20serve%20overseas.

[21] Channon Hodge and Tawanda Scott Sambou, "These Black Female Soldiers Brought Order to Chaos and Delivered a Blow against Inequality," CNN, Cable News Network, October 9, 2020, https://www.cnn.com/2020/07/20/us/6888th-battalion-african-american-women-world-war-ii/index.html.

empowerment and independence. Letters written by mothers struggling to provide for their children, African American women eagerly enlisting in the Army, school-girls and grandmothers, incarcerated Japanese-American women separated from their husbands, uprooted war brides moving to distant places, and widows learning how to cope with the inescapable calamities of war prove that World War II had immeasurable and extensive effects on these women's lives and transformed their perception of themselves and their country.[22] Two of the most central themes articulated in these letters include the empowerment and independence earned by wartime women. These letters embody the honest accounts, written from the hearts of women, and offer insights, untainted by the events of the past seventy-six years, into an irrefutably essential aspect of the war—the perspectives of women.

Polly Crowe, one of the 6.5 million women encouraged to enter the workforce, enthusiastically wrote her Army husband William shortly after taking a job as a comptometer in Indiana at Jefferson Boat and Machine Company. Calling him "the husband of a career woman,"[23] she expressed the women's change in mindset from only serving as the "wife" to now flourishing as the working woman of the household. In this sense, she painted William as solely the "husband" of the hard-working "career woman," which starkly contrasted pre-war gender roles. She even "opened [her] little checking account too" and felt "a grand and a glorious feeling" when writing "check[s] all [her] own and not having to ask for one."[24] Women learned how to manage their finances, previously considered the man's job, and gained independence by having the opportunity to provide for themselves. Like many other American women, Polly had to worry about her son, Bill, as she "wanted to work but didn't want to leave Bill all day."[25] Grappling with the desire to work and to have independence while continuing to raise their children, women had to find ways to take care of their kids while continuing to provide for the

[22] Judy Barrett Litoff and David C. Smith, "U.S. Women on the Home Front in World War II," Historian 57, no. 2 (Winter 1995): 349. https://search.ebscohost.com/login.aspx?direct=true&db=khh&AN=9502164425&site=hrc-live.
[23] Judy Litoff and David C. Smith, "'Since You Went Away' The War Letters of America's Women," History Today 41, no. 12 (December 1991): 20–27, https://search.ebscohost.com/login.aspx?direct=true&db=khh&AN=9112233541&site=hrc-live.
[24] Judy Litoff and David C. Smith, "'Since You Went Away' The War Letters of America's Women," History Today 41, no. 12 (December 1991): 20–27, https://search.ebscohost.com/login.aspx?direct=true&db=khh&AN=9112233541&site=hrc-live.
[25] Judy Litoff and David C. Smith, "'Since You Went Away' The War Letters of America's Women," History Today 41, no. 12 (December 1991): 20–27, https://search.ebscohost.com/login.aspx?direct=true&db=khh&AN=9112233541&site=hrc-live.

family. By overcoming this struggle, women began to believe in their intrinsic potential, leading to a stronger sense of individuality and empowerment.

Another independent woman, Edith Speert in Cleveland, Ohio, wrote to her husband Victor about her newfound sense of independence and individuality, expressing the amazing changes she had undergone during the war. The couple got married in June of 1942, and only a short month later, the Army drafted Victor. They moved fourteen times over the next two years, and in 1944, the Army sent Victor to Europe, and Edith returned to her home in Cleveland to live with her parents. She took a job at a federally sponsored day-care center where she became the director of Cleveland's True Sisters Day Care Center. During their long, arduous eighteen months of separation, Edith wrote passionate letters to Victor that detailed her work as the day-care director, managing their funds, wartime shortages, car repairs, and her aspirations and dreams for herself in the post-war world. Like many American women, she found great fulfilment in her profession. She felt "twice as independent as [she] used to be," trying her hardest to cast off the shackles of the patriarchy by "living exactly as [she] want[ed] to."[26] Writing her husband again a few weeks later, she asserted that she "want[ed] to make sure [she made] herself clear about how [she had] changed."[27] She told her husband she did not feel "interested solely in a home" and how she wanted "to work all [her] life." She detailed the "emotional satisfaction" work gave her and revealed her newfound empowerment by stating that her husband would "cook the supper while [she attended] a meeting" and that she "[would] never wash and iron again," completely disregarding the pre-war societal norms for women.[28] By giving her husband the inherently "feminine" jobs, Edith empowered herself to step out of the domestic sphere and into the workforce to grow into her full potential. Like Edith, many women gained this same sense of empowerment from the developments of the war because for the first time, these independent women had the chance to shape their fate and dictate their future.

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[26] Judy Litoff and David C. Smith, "'Since You Went Away' The War Letters of America's Women," History Today 41, no. 12 (December 1991): 20–27, https://search.ebscohost.com/login.aspx?direct=true&db=khh&AN=9112233541&site=hrc-live.
[27] Judy Litoff and David C. Smith, "'Since You Went Away' The War Letters of America's Women," History Today 41, no. 12 (December 1991): 20–27, https://search.ebscohost.com/login.aspx?direct=true&db=khh&AN=9112233541&site=hrc-live.
[28] Judy Litoff and David C. Smith, "'Since You Went Away' The War Letters of America's Women," History Today 41, no. 12 (December 1991): 20–27, https://search.ebscohost.com/login.aspx?direct=true&db=khh&AN=9112233541&site=hrc-live.

In early 1945, war bride Frances Zulauf wrote a letter to her Army Air Force husband, discussing how her wartime experiences contributed to her growing empowerment. She believed the war "force[d] [American people] to be bigger, more tolerant, better citizens than [they] would have been otherwise."[29] Taking a positive outlook on the war and using this hiatus in normal life to her advantage, Frances believed "if it hadn't been for all this upset in [her] life, [she] would still be a rattled brain" "little girl," thus proving that because of the war, she now desired a life of impact.[30] The war gave Frances the opportunity to understand that "what [she wanted] for happiness" was "so much different than what [she] wanted two years ago."[31] She wanted to step out of her comfort zone and take part in and influence a larger societal circle. Becoming more "tolerant," American citizens and leaders during the war accepted the arrival of women into new and different areas of society, even encouraging them to fight in the war and join the workforce, thus allowing women around the nation the opportunity to recognize their power and strength like never before.

Writing to her mother, Marion Stegeman from Athens, Georgia detailed the enjoyment she attained from piloting an aircraft. She tells her mother "you haven't lived until you get way up there."[32] Access to military professions presented opportunities such as transporting and operating all different types of military aircraft throughout America for the WASPs, the new women's branch of the army previously discussed. The WASPs took immense pride in their vital occupations and filled their letters with details of their elation in flying. Marion gained her independence as she loved being "all alone—just [her] and that big, beautiful plane humming under [her] control."[33] In this new job, Marion gained the control over her future and occupation that she never experienced before the war. A few months later, she wrote to her parents again, mentioning the hardships she faced when taking care of wounded soldiers, stating it "was

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[29] Judy Barrett Litoff and David C. Smith, *American Women in a World at War: Contemporary Accounts from World War II* (Wilmington, DE: Scholarly Resources, 2004), 9.
[30] Judy Barrett Litoff and David C. Smith, *American Women in a World at War: Contemporary Accounts from World War II* (Wilmington, DE: Scholarly Resources, 2004), 9.
[31] Judy Barrett Litoff and David C. Smith, *American Women in a World at War: Contemporary Accounts from World War II* (Wilmington, DE: Scholarly Resources, 2004), 9.
[32] Judy Barrett Litoff and David C. Smith, *American Women in a World at War: Contemporary Accounts from World War II* (Wilmington, DE: Scholarly Resources, 2004), 11.
[33] Judy Barrett Litoff and David C. Smith, *American Women in a World at War: Contemporary Accounts from World War II* (Wilmington, DE: Scholarly Resources, 2004), 11.

rewarding, but [a] sad experience."[34] Seeing tragedy, experiencing suffering, and having the opportunity to take an essential role in helping soldiers, women like Marion felt empowered to take charge and create change in society.

Recounting her experience as an officer in the Woman's Army Auxiliary Corps, Charity Adams Earley wrote a memoir about her daily life as one of thirty-nine other African American women serving in the WAAC. The depiction of women's growing empowerment during World War II still had limitations as exposed by the severe underrepresentation of women of color in first-hand sources, including letters. Uncovering letters written by African American women during the war serves as a crucial area of potential study to fill the deep racial divide still present in American society. In her memoir, Charity discussed the concern she received from family members and friends about applying to join the Army and how she, "did develop a little ego, accepting their concern with questionable modesty, as if [she] had already accomplished something."[35] Feeling empowered just by applying to the women's branch, and "even with the knowledge that there were many other women receiving notices like [hers]," she still felt "special."[36] The U.S. government previously limited Army professions to white men, but now Charity had the opportunity to be "very proud of [herself] and the uniform [she] had been issued."[37] Through the war, she "learned to speak from the diaphragm, and ever since then [she was] able to make [herself] heard."[38] Charity, for the first time, learned how to use her voice to make others, including white men, listen.

As the war culminated in late summer of 1945, letters written abroad and at home focused heavily on the deeper significance of the war and highlighted the impact of the experience that changed the women's' lives. From her station in the Southwest Pacific, a member of the Women's Army Corps, Jane Warren, wrote to her mother, asserting that her "life ha[d] really changed." She, and women across the nation, "learned in these past two years that [they]

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[34] Judy Barrett Litoff and David C. Smith, *American Women in a World at War: Contemporary Accounts from World War II* (Wilmington, DE: Scholarly Resources, 2004), 11.

[35] Charity Adams Earley, *One Woman's Army: A Black Officer Remembers the WAC* (College Station, TX: Texas A & M University Press, 1995), 14.

[36] Charity Adams Earley, *One Woman's Army: A Black Officer Remembers the WAC* (College Station, TX: Texas A & M University Press, 1995), 15.

[37] Charity Adams Earley, *One Woman's Army: A Black Officer Remembers the WAC* (College Station, TX: Texas A & M University Press, 1995), 27.

[38] Charity Adams Earley, *One Woman's Army: A Black Officer Remembers the WAC* (College Station, TX: Texas A & M University Press, 1995), 34.

can really do things and make a difference as [women]."[39] Jane believed the "war and [the] opportunity it provided for women like [her] (and women at home in the war effort) [was] going to make a profound difference in the way a lot of women [thought] and [did] after the war [was] over."[40] Instead of having a bleak outlook about the war, Jane and Marion used this time to their advantage to better themselves as women and to prove to themselves and to the nation that they had the potential and drive to make a powerful and lasting impact. Ultimately empowering her, the opportunity to serve in the Army helped Jane uncover her confidence and pride in being an independent woman, two uncommon traits and beliefs for pre-war women to hold. While the war had detrimental consequences in other senses, women gained empowerment by the change they created and the life-altering experiences they endured. Knowledge is power, and now women had it; the knowledge that they could step out of their homes to tear down the restraints of the patriarchy that diminished the innate power of being a woman.

After the war ended in September of 1945, the men returned home triumphantly, eager to return to their simple pre-war lives. For women, this meant being forced out of their hard-earned jobs as the men wanted their original positions in society back. Some women stayed employed as waitresses, secretaries, or in other clerical jobs in what society called the "pink collar" workforce. These women did not receive equal pay to any male-dominated professions, and the jobs did not challenge or reward them appropriately, but women took these jobs because of their recent desire or out of a necessity to continue working.[41]

Fifteen years later in the 1960s, women began to truly fight for their equality: their voices would no longer be marginalized or suppressed by the patriarchy. More than ever, women began entering the workforce, which in turn increased the shared frustration among women regarding gaping gender discrepancies in pay and the stark increase in sexual harassment in the workplace. The fundamental objectives of the 1960s-era feminists heavily derived from the effects of men's rejection of the crucial role women played in the workforce during World War II. Marching and fighting for equal pay for equal work, for the termination of severe restrictions on women in

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[39] Judy Barrett Litoff and David C. Smith, *American Women in a World at War: Contemporary Accounts from World War II* (Wilmington, DE: Scholarly Resources, 2004), 11-12.
[40] Judy Barrett Litoff and David C. Smith, *American Women in a World at War: Contemporary Accounts from World War II* (Wilmington, DE: Scholarly Resources, 2004), 11-12.
[41] "Women in the Work Force during World War II," National Archives and Records Administration, National Archives and Records Administration, August 15, 2016, https://www.archives.gov/education/lessons/wwii-women.html.

executive positions, and for sharing responsibility for housework and child-raising, women fought for an equal role in American society.[42]

World War II gave American women the opportunity to thrive in the workforce by creating a lasting and impactful shift in gender-dominated societal norms. Their strength and tenacity laid the groundwork for future generations of women to continue to prove that gender does not define their potential roles or opportunities. With courage and ingenuity, women learned to defy the patriarchy's harmful lie that being a woman equates to weakness, realizing that their femininity and womanhood empowers them and gives them the strength to fight for their future. As young women, we too must roll up our sleeves and take up Rosie's mantel and continue to combat the restrictive, patriarchal, and discriminatory nature of contemporary American society by fighting for women's equality.

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[42] Kenneth T. Walsh "The 1960s: A Decade of Change for Women" U.S. News, U.S. News & World Report, March 12, 2010, https://www.usnews.com/news/articles/2010/03/12/the-1960s-a-decade-of-change-for-women.

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How the Interest of US Twitter Users in Environmental Issues Varies Per Region By: Kirthi Shankar

Abstract

Social media sites offer platforms for its users to share their concerns about current events, including environmental issues. This study analyzes how Twitter users from different regions of the United States talk about environmental issues, and how discussion about seven specific environmental issues varies across regions. To investigate how factors like geographic proximity play a role in similarity in environment-related concerns between regions, we looked at hashtag similarity between regions and the frequency of discussion about the seven different environmental topics per region. Additionally, we used natural language processing techniques to see how much environmental issues–such as air pollution and oil spills–played a role in Twitter discussion. Our data suggests that users are more likely to tweet about issues that are local to the region they live in, and that environmental issues do not play a huge role in Twitter discussion.

Introduction

Social media platforms connect individuals from all parts of the United States and provide opportunities for their users to learn about issues outside of their geographic bubbles. Users can also publicly post their thoughts about issues they care about, bringing awareness to these issues and advocating for change. One such overarching issue which impacts us heavily today is the degradation of the environment due to man-made problems, such as air pollution, coastal pollution, and overexploitation of natural resources like oil. This study looks at how users of Twitter, a prominent social media platform, talk about environment-related issues such as the ones above. Our main focus is how the amount of discussion regarding a certain environmental issue varies between users in different geographic regions of the United States, and what can account for these differences. One question we aim to answer is whether the geographic distance between two regions has a correlation with the similarity in topics discussed by these regions.

We expect that if a correlation is found, regions with closer geographic proximity will have more similarities in their discussion: for example, tweets from the Northeast(which includes New York) will have more in common with those from the South(which includes Texas) than those from the Pacific(which includes Alaska). We also will look at similarities in the language that people from different regions use when discussing these topics by looking at the hashtags they include in their tweets.

RQ 1a: Is there a correlation between geographical distance and similarity in interests with regard to environmental issues?

RQ 1b: Is there a correlation between geographical distance and similarity in how an issue is discussed?

In the case that there is no consistent pattern found between geographical distance and similarity in discussion, we will speculate on other commonalities between regions that could impact the similarities in what users from different regions tweet about.

RQ 2: What aspects of geographical regions have an impact on commonalities in language use and environmental interests of Twitter users?

Lastly, we will determine whether social media is effective at all in raising awareness about environmental issues. Our results will suggest whether Twitter is a good platform for educating the general public about environmental issues.

RQ 3: Do environmental topics play a large role in Twitter discussion?

We will collect data from Twitter users using the Twitter API along with tools in the R programming language and data collection platform. We will group the tweets based on the regions their users are from. Then we will analyze the data via natural language processing techniques to find commonly discussed environmental topics within each region, along with the overall relevance that environmental topics have in each region. Our study contributes to the

understanding of how the environmental concerns of different regions vary, along with the effectiveness of environmental advocacy via Twitter.

Literature Review

This literature review is divided based on different aspects that contribute to our study: reach of geographically isolated events, relevance of environmental issues per region, and differing language use. Each section contains information from related studies and articles, which we will utilize in our analyses or build on.

Reach of Geographically Isolated Events

In a study based in Cornwall, Great Britain, geographically isolated wildlife reserves gained more engagement and exposure via videos posted on social media. Most of their audience came from the same geographical area or the UK, and only some came from other countries(Pavelle & Wilkinson). This study's results showed that the reach of environmental causes and environment-related issues is confined to the geographical location of the issue. The lack of reach Cornwall had in nations other than Britain can be attributed to people having less interest in concerns of another country, or people having fewer concerns about issues that pertain to farther locations or locations that are different from them geographically. To see whether it is a matter of nationality(being in the same or a different country) or geographical distance that determines interest, we are studying the behavior of US citizens. The United States is a single country but much larger than Britain, so if there is a general homogeneity of topics being discussed within the United States, we may conclude that reach, or interest, is determined by nationality. If there is a lack of homogeneity within the United States, it will suggest that reach is attributed to a different factor, potentially geographical distance.

Relevance of Environmental Issues per Region

In a study by Barberá et al. on how policymakers and Twitter users impact each other's interests and focus, it was found that the politically attentive groups and supporters of the politicians were consistently more impacted by the interests of politicians, and that politicians responded more to their interests than those of the general public(Barberá et al). Local environmental issues may also have low reach in other regions as a result of interest being

limited to those with strong environmental beliefs–rather than the general public–of a farther region. The regions of the United States have varying environmental factors that contribute to the environmental issues they face. For example, the burning of fossil fuels can create acid rain such as that in the Northeast, which creates poor soil conditions(Likens & Lambert). This can reduce homogeneity with regard to what environmental issues users from each region discuss. A study by Otero et al. provides insight into how interest in environmental issues may differ based on region. The purpose of the study was to see the distribution of Twitter user interest in coastal and marine pollution, in order to understand more about how this information was being spread on social media. The results indicated that users will show the most interest in issues pertaining to their own regions, as it was coastal states that seemed the most concerned with coastal and marine pollution(Otero & Quintas).

More evidence of this was seen in a study by Zou et al., which focused on responses to Hurricane Sandy on Twitter rather than coastal pollution. From the data they collected, they found that the most response to Hurricane Sandy was from the regions where the hurricane created the most damage(Zou et al). We will add to these results by looking at other environmental topics and seeing if regions most discuss environmental problems they relate with.

Differing Language Use

A study by Hodges et al. on the debate for the Keystone XL Pipeline on Twitter studied how both pro-Keystone XL and anti-Keystone XL groups advocated for their cause on Twitter to help convince lawmakers whether or not to accommodate the new Keystone XL pipeline. The researchers used a machine learning model to classify tweets about the pipeline as either pro-Keystone XL or anti-Keystone XL. The two groups both used largely different hashtags from each other, which suggested that they had not interacted much(Hodges et al). We will also use the hashtag similarity method to measure interaction and linguistic similarities between regions.

Methodology

Our methodology consists of three aspects: data collection, data preprocessing, and data analysis.

Data Collection

The data for our study comes from public Twitter users and was collected using the programming language R and the Twitter API. On three different dates, each seven days apart, we collected samples of 100,000 tweets containing the following keywords: "air", "coast", "fire", "forest", "oil", and "plastic"(100,000 tweets per keyword), and 36,000 containing "soil".

Table 1 Summarizes the Total Data Collected

Containing:	Week One	Week Two	Week Three	Total # Tweets collected
"air"	100,000	100,000	100,000	300,000
"coast"	100,000	100,000	100,000	300,000
"fire"	100,000	100,000	100,000	300,000
"forest"	100,000	100,000	100,000	300,000
"oil"	100,000	100,000	100,000	300,000
"plastic"	100,000	100,000	100,000	300,000
"soil"	36,000	36,000	36,000	108,000
Total # Tweets collected	636,000	636,000	636,000	1,908,000

Data Preprocessing

After collecting the tweet data, which included the tweets' texts and their users' locations, we sorted the tweets by the regions their users came from, looking for keywords in their locations as shown in Table 2. The sorting was in accordance with the regions defined by

| Region	Indication Keywords in User's Location
West	" CA ", " WA ", " OR ", " ID ", " MT ", " WY ", " CO ", " UT ", " NV ", " AZ ", " NM ", "California", " Washington", "Oregon", "Idaho", "Montana", "Wyoming", "Colorado", "Utah", "Nevada", "Arizona", "New Mexico"
Midwest	" ND ", " SD ", " NE ", " KS ", " MN ", " IA ", " MO ", " WI ", " IL ", " IN ", " MI ", " OH ", "North Dakota", "South Dakota", "Nebraska", "Kansas", "Minnesota", "Indiana", "Missouri", "Wisconsin", "Illinois", "Indiana", "Iowa", "Michigan", "Ohio"
Northeast	" NY", " PA ", " NJ ", " CT ", " RI ", " MA ", " VT ", " NH ", " ME ", "New York", "Pennsylvania", "New Jersey", "Connecticut", "Rhode Island", "Massachusetts", "Vermont", "New Hampshire", "Maine"
South	" TX", " OK ", " AR ", " LA ", " MS ", " AL ", " FL ", " GA ", " SC ", " NC ", " VA ", " D.C", " MD ", " DE ", " KY ", " TN ", "Texas", "Oklahoma", "Arizona", "Louisiana", "Mississippi", "Alabama", "Tennessee", "Kentucky", "Georgia", "South Carolina", "North Carolina", "Florida", "Maryland", "Delaware", "West Virginia", "Virginia"
Pacific	" HI ", " AK ", "Hawaii", "Alaska"

Table 2
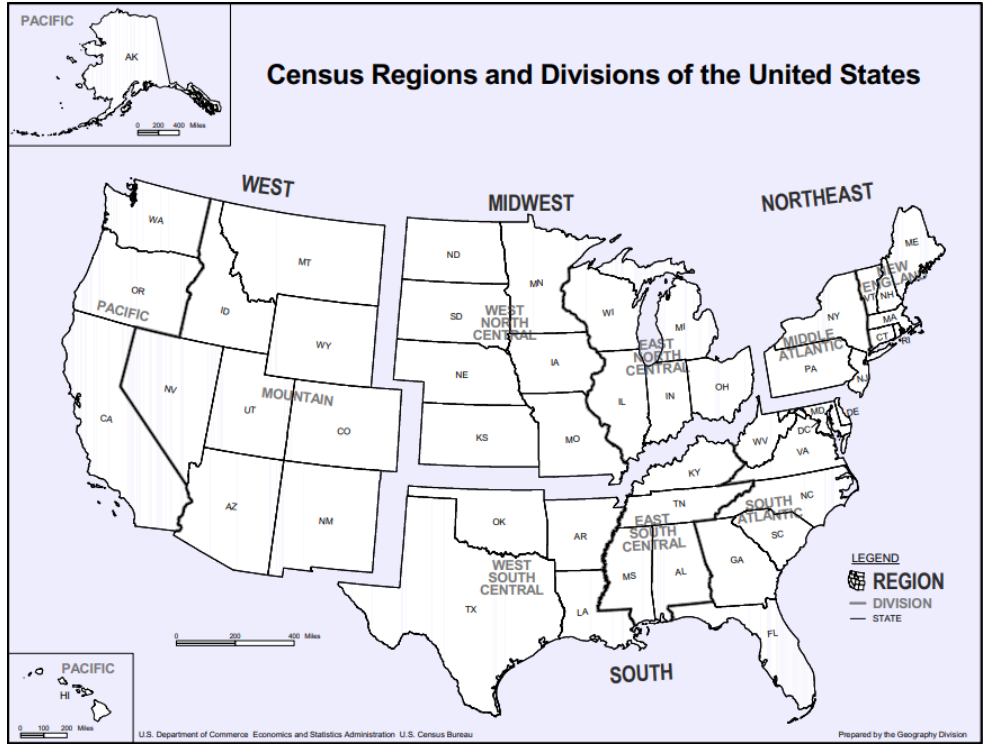
Figure 1("us_rediv.pdf")

We took the hashtags from the text for later use and removed emoticons, punctuation, and stop words(as listed by nltk.corpus). Stop words include commonly used words like "a" and "the" which are not relevant to the data analysis. The data was also cleaned with the pip preprocessor.

Example text before preprocessing:

Still quite a few fungi around - a young Common Puffball, Buttercap I think, and White Saddle - Friston Forest, Sussex #fungi https://t.co/0XSqtk5owP

Example text after preprocessing:

Still quite fungi around young common puffball buttercap think white saddle friston forest sussex fungi

Region Summaries

After we divided the tweets by region, we found the summative data per region by getting the frequency and tf idf of each topic within each region. Tf-idf, term frequency-inverse document frequency, determines the frequency of a keyword in relation to how rare it is in a text. For example, the word "hate" may have a higher tf-idf in a political justice text, where it's more relevant, than in a longer regular novel, where it appears more often.

Based on the summative data, we gauged the topics' ranking of importance per region, and answered RQ 1a . We also discussed, based on prior research, other factors that could be attributed to the discussion preferences of different regions(RQ 2).
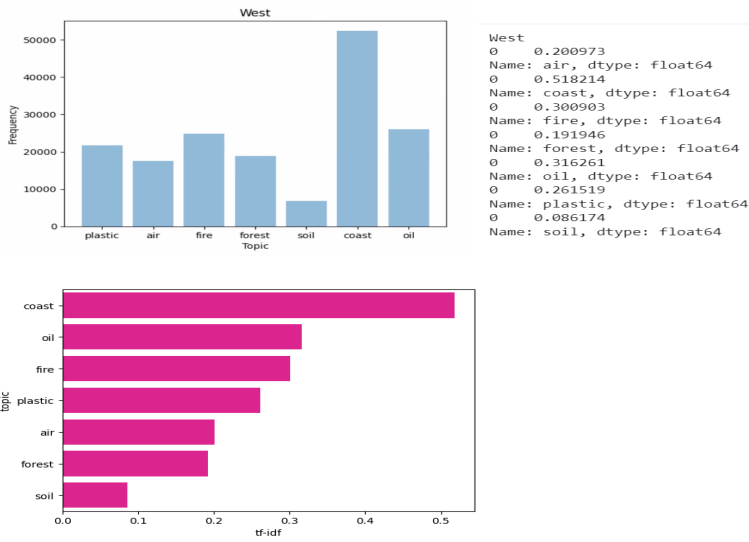

Hashtag Similarities

To answer RQ 1b, we looked at the hashtags used by users from different regions. After extracting the hashtags from the tweets, they were separated by region. Those in the same region were combined into long texts, which were compared using cosine similarity. The cosine similarity matrix provided a value for each pair of regions that described how similar their hashtags were to each other(the closer the values were to one, the more similar they were). This provided insight as to how much the regions interacted with each other through Twitter.
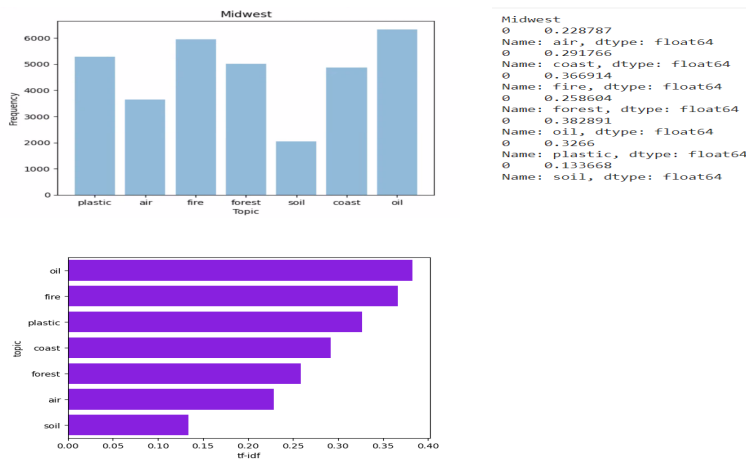

Environmental Relevance

When gathering the data, we searched for tweets with keywords that could be used in broad contexts, such as "air" and "oil", rather than those that are certainly related to the environment, such as "air pollution" and "oil drilling". We did this so that the tweets reflected general discussion on Twitter, and helped answer RQ 3 regarding how big a role the environment played in general Twitter discussion. We used collocations from the nltk toolkit to understand the context in which the keywords were being used. Collocations are the most common bigrams, or pairs of consecutive words, in a set of texts. They give a summary of the most frequent subtopics that are found in the data collected. For each region and topic, we looked at the top thirty collocations to see how many carried environmental significance.
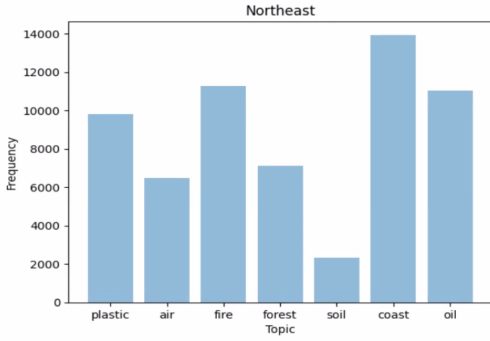
Region Summaries

West
0   0.200973
Name: air, dtype: float64
0   0.518214
Name: coast, dtype: float64
0   0.300903
Name: fire, dtype: float64
0   0.191946
Name: forest, dtype: float64
0   0.316261
Name: oil, dtype: float64
0   0.261519
Name: plastic, dtype: float64
0   0.086174
Name: soil, dtype: float64

Figures 2a, 2b, 2c(left to right): 2a shows the frequency of tweets about each topic(topical frequency), 2b shows the tf-idf values for each topic, and 2c shows the same tf-idf values from highest to lowest. This is the data for the West.
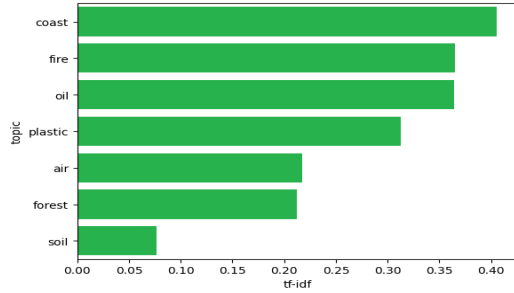

Midwest
0   0.228787
Name: air, dtype: float64
0   0.291766
Name: coast, dtype: float64
0   0.366914
Name: fire, dtype: float64
0   0.258604
Name: forest, dtype: float64
0   0.382891
Name: oil, dtype: float64
0   0.3266
Name: plastic, dtype: float64
0   0.133668
Name: soil, dtype: float64

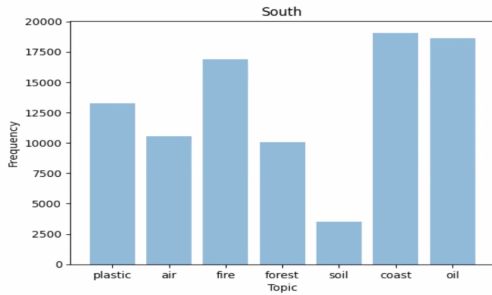Figures 3a, 3b, 3c: Similar to Figures 2a, 2b, 2c but for the Midwest.

Northeast
0   0.217005
Name: air, dtype: float64
0   0.405569
Name: coast, dtype: float64
0   0.364736
Name: fire, dtype: float64
0   0.21187
Name: forest, dtype: float64
0   0.364538
Name: oil, dtype: float64
0   0.312645
Name: plastic, dtype: float64
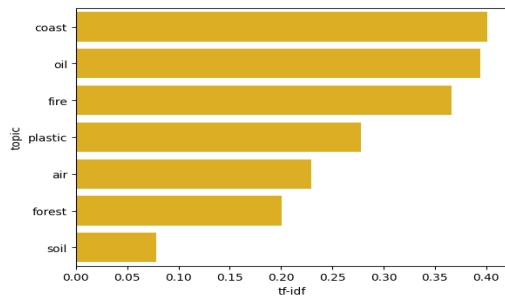0   0.076631
Name: soil, dtype: float64

Figures 4a, 4b, 4c: Similar to Figures 2a, 2b, 2c but for the Northeast.
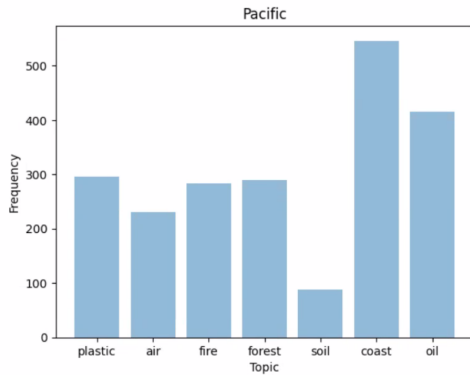

South
0   0.229898
Name: air, dtype: float64
0   0.40117
Name: coast, dtype: float64
0   0.366315
Name: fire, dtype: float64
0   0.201019
Name: forest, dtype: float64
0   0.394393
Name: oil, dtype: float64
0   0.277941
Name: plastic, dtype: float64
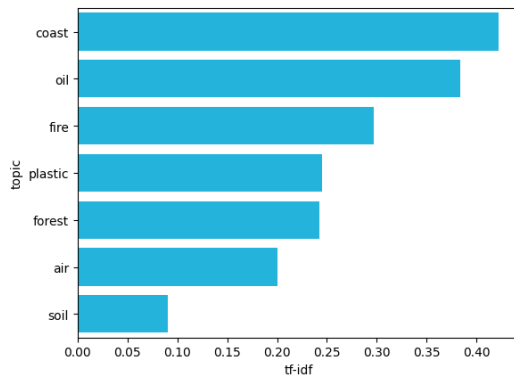0   0.078491
Name: soil, dtype: float64

Figures 5a, 5b, 5c: Similar to Figures 2a, 2b, 2c but for the South.

```
Pacific
0    0.20016
Name: air, dtype: float64
0    0.422274
Name: coast, dtype: float64
0    0.297012
Name: fire, dtype: float64
0    0.242775
Name: forest, dtype: float64
0    0.383533
Name: oil, dtype: float64
0    0.245358
Name: plastic, dtype: float64
0    0.090395
Name: soil, dtype: float64
```


Figures 6a, 6b, 6c: Similar to Figures 2a, 2b, 2c but for the Pacific.

Analysis

To answer RQ 1a, geographical proximity does not seem to correlate with the similarities in regional priorities. For example, while the Northeast(3c) and Midwest(2c) are geographical neighbors, the order of priority of the topics is different with the exceptions of fire and soil.

The data does suggest patterns that could be used to answer RQ 2. The highest discrepancy between regions is visible between the Midwest and all the other regions. In the Midwest, the topic "coast" is much less frequent than in the other regions. This suggests that the frequency of discussion about a topic within a region is related to the region's geographical features, as the Midwest is the only region that does not have a coast.

The Northeast has more forest cover than the Midwest("Whrc_carbon_us_iotd.Jpg"), but the topic "forest" has a higher tf-idf in the Midwest. In addition, the Northeast faces more air pollution than the Midwest(America's Health Rankings), and the topic "air" has a higher tf-idf in the Northeast than the Midwest. It can be concluded from this that regions will focus on what they are lacking in environmental health, the Midwest lacking forest cover and Northeast

needing cleaner air. The Southern region(5c) has the same rankings as the Northeast for "air" and "forest", as the South deals with air pollution and most of it has sufficient forest cover in comparison to the Midwest.

One exception to this idea could be the Pacific Region(6c), where both Alaska and Hawaii have more forest cover than the Midwest, but "forest" has a higher frequency than "air". This could be because Hawaii and Alaska do not have significant air pollution compared to the Northeastern and Southern states, which also have forest cover but experience pollution. When looking at the variations in frequencies for "forest" and "air", the trend appears to be that discussion about a topic which is particularly a problem for a region will have a high frequency. The frequency of discussion about non-problematic topics will increase if the presence of the topic within a region is high.

Another discrepancy is in the Northeast, where "fire" has a higher tf-idf value than "oil" unlike the other regions where "oil" has a higher tf-idf value than "fire". As the Northeast is not fire prone compared to the West(2c)("Wildfire-Map.Jpg"), this suggests that the data collected may not be entirely affected by environmental issues.
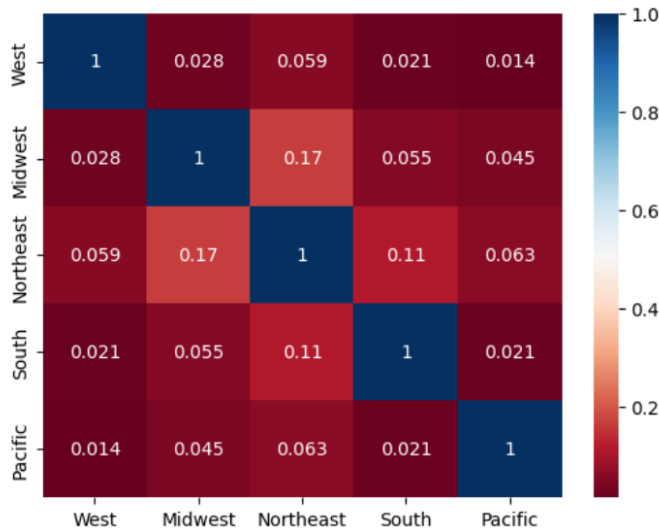
Hashtag Similarities

Figure 7: the cosine similarity chart between each region's hashtags. A value close to one indicates high similarity.

Analysis

   The highest similarity is that between the Northeast and Midwest(0.167)[43], and the Midwest, Northeast, and South have the highest similarities with each other. This seems to indicate that neighboring regions have more linguistic similarities, but the rest of the data does not reflect this trend. For example, the West has more in common with the Northeast(0.059) than with the Midwest(0.028), despite sharing a border with the Midwest and not the Northeast. The South has more in common with the Pacific(0.021) than the West(0.0206)[44]. With regard to RQ 1b, this suggests that the similarity in how regions discuss a topic is not so impacted by geographical distance.

   As for RQ 2, the data seems to provide support both for and against the idea of political leaning being involved in the similarities in how a topic is discussed. The West's hashtags are more similar to the Northeast's(0.059) than the Midwest's(0.028). As the West is mostly liberal and the Northeast is more liberal than the Midwest, this supports political leaning impacting the hashtag similarities. However, the South, almost completely conservative, has more in common with the Northeast(0.11) than the Midwest(0.055). Based on this, it does not seem like political leaning has a particular effect on similarities between hashtags or ways of discussion.

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[43] Rounded up in the cosine similarity chart
[44] Rounded up in the cosine similarity chart

Environmental Relevance
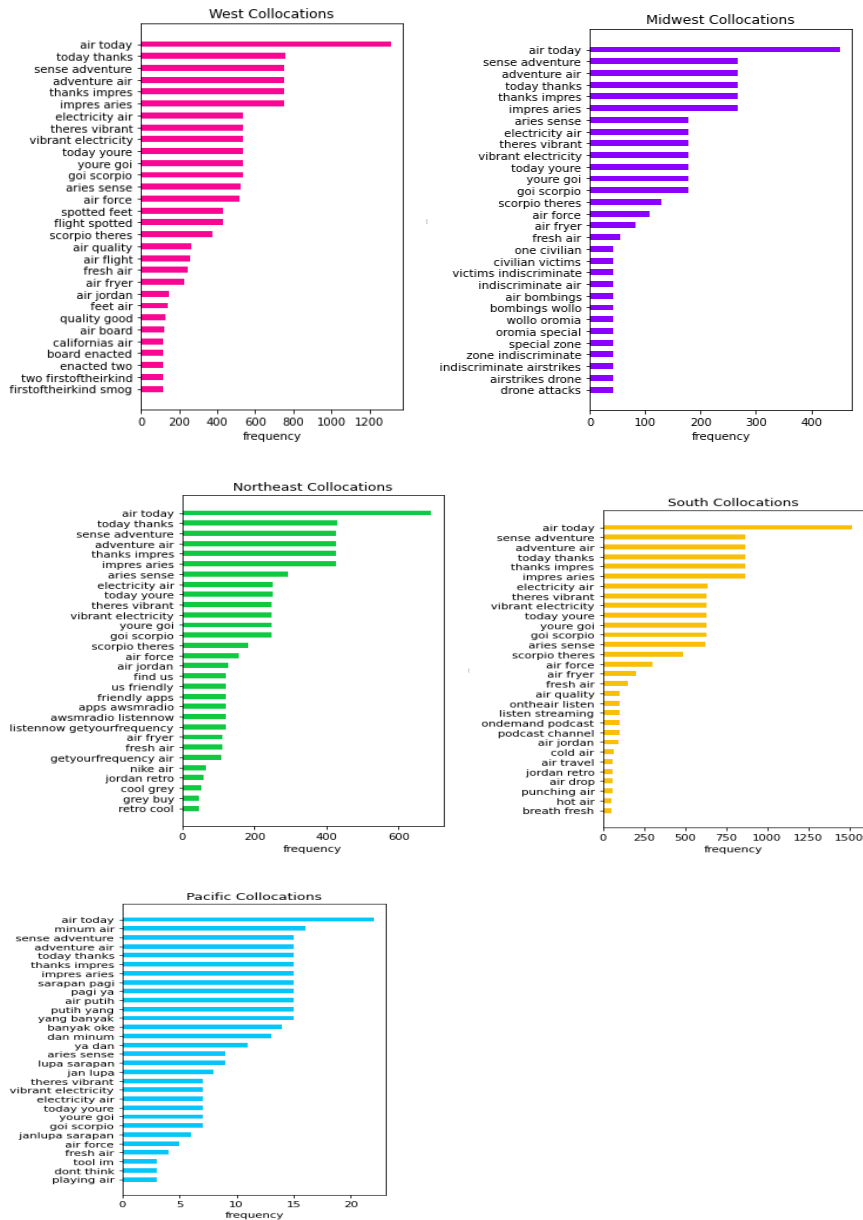
Figure 8: the top 30 "air" collocations for each region.

This dataset shows very few potentially environment-related bigrams, the nearest being "air quality" in the South and West, "smog" in the West, and "fresh air" in all the regions. There is no mention of "air pollution".

Coast
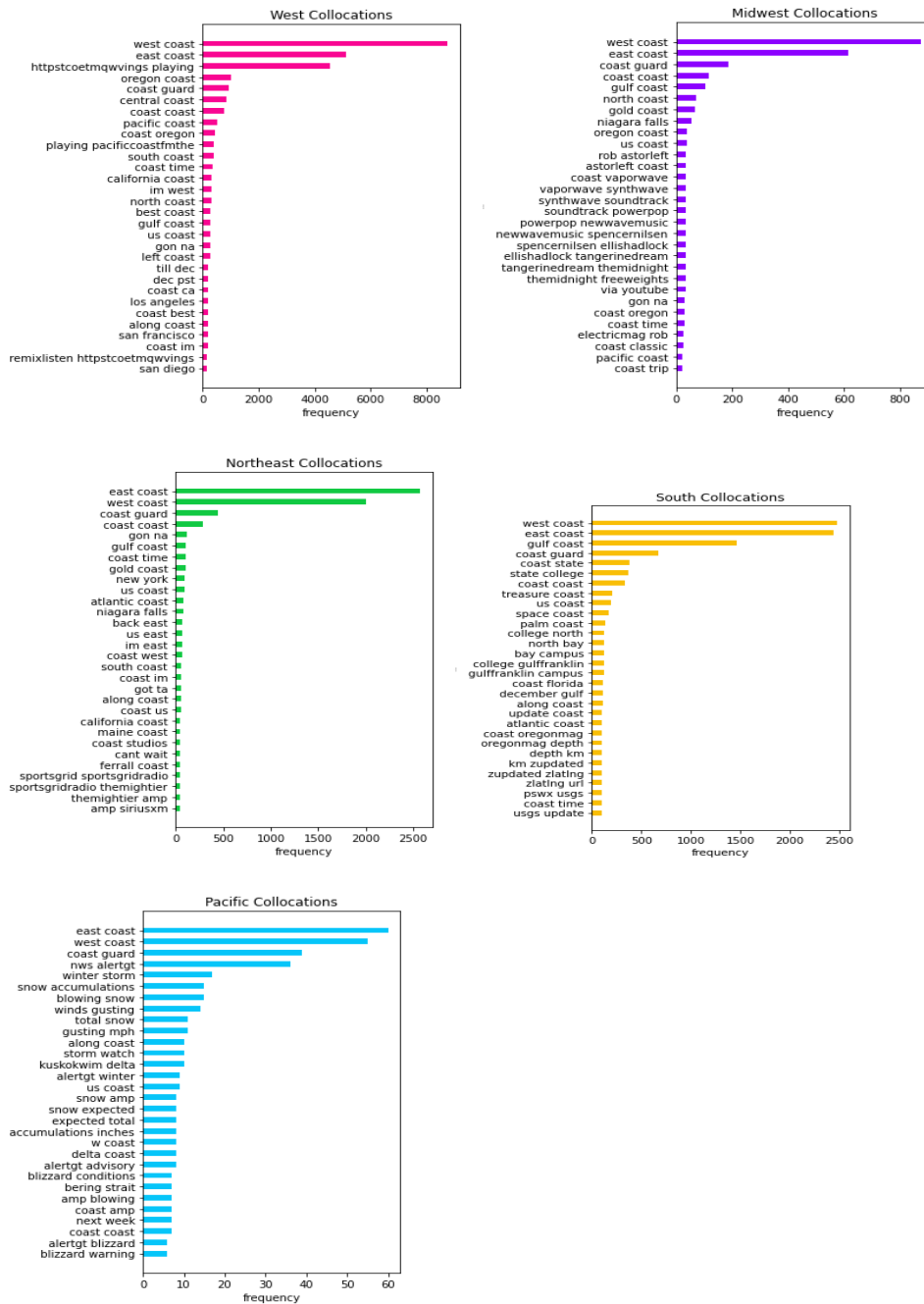
Figure 9: the top 30 "coast" collocations for each region.

This data mostly has mentions of geographical coasts in the United States. The Pacific Region's bigrams vary the most from those of the other regions, as they show a high focus on weather conditions.

Fire
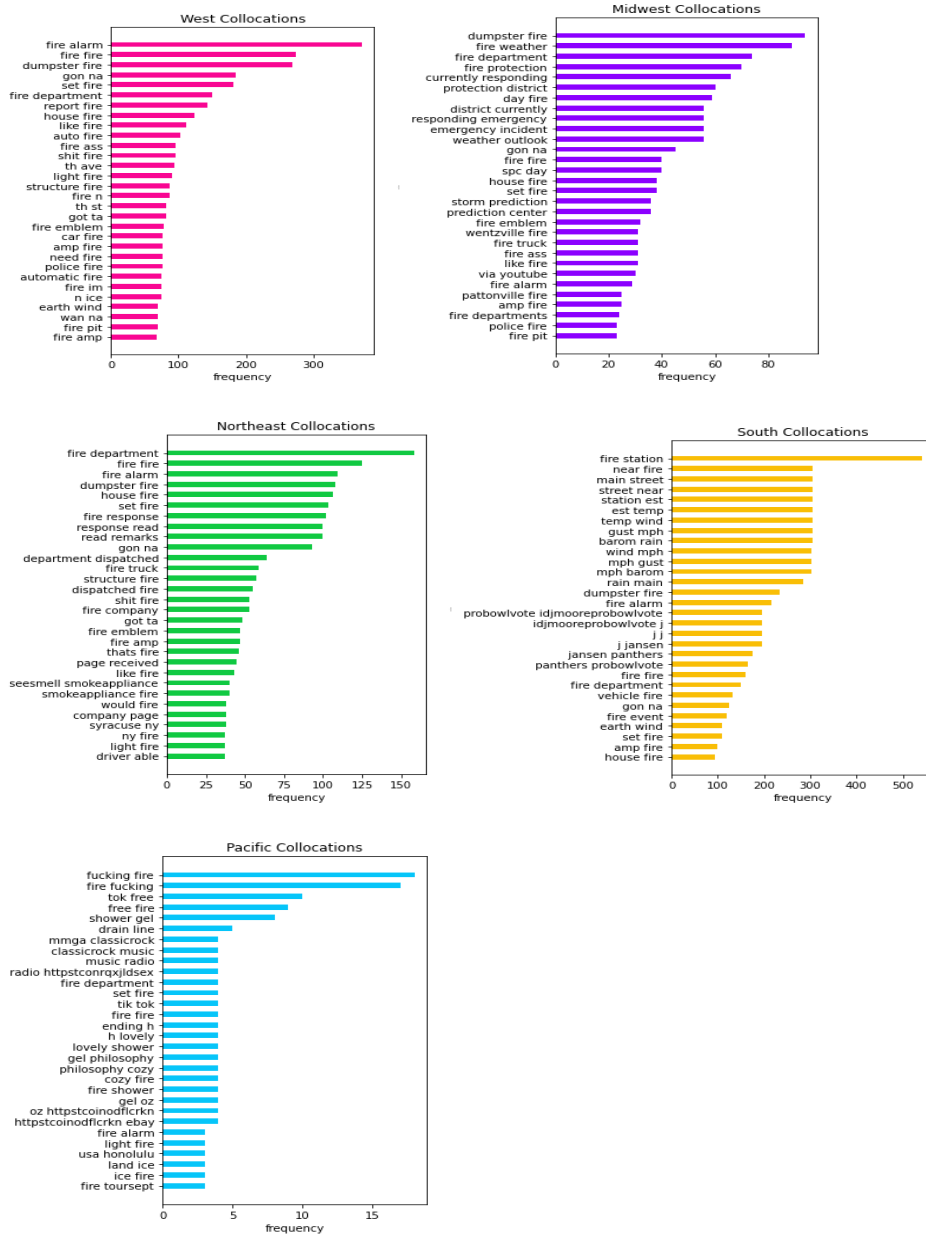
Figure 10: the top 30 "fire" collocations for each region.

The Midwest shows the most bigrams that are related to weather and destructive fire, such as "storm prediction", "fire weather", and "emergency incident". The South includes weather-indicating bigrams like "wind mph". These likely come from weather and fire warnings rather than environmental concerns.

Forest
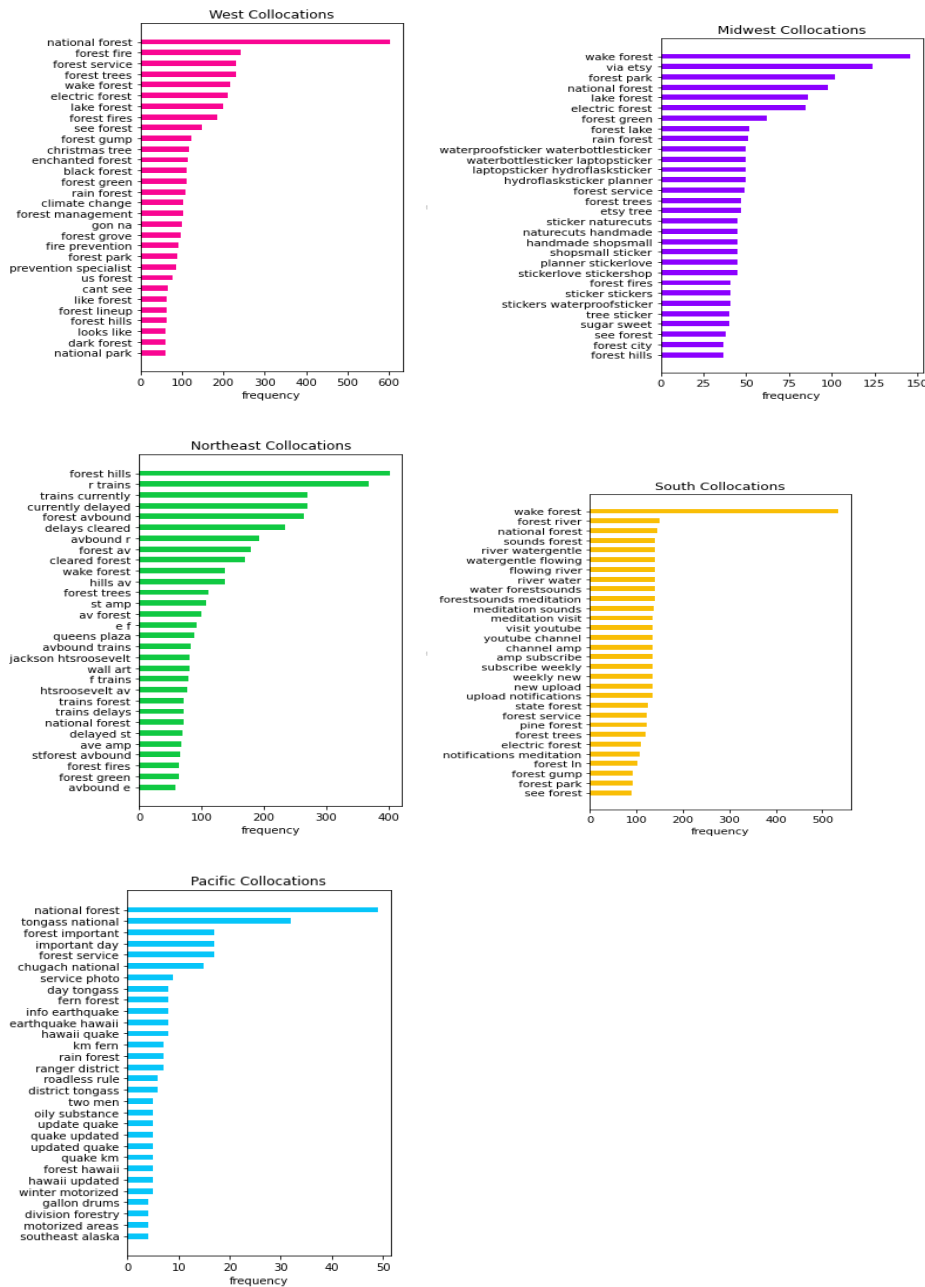
Figure 11: the top 30 "forest" collocations for each region.

This data has more environmental focus and mention of forest fires, which were lacking in the "fire" bigrams. The West has the bigrams "forest fire", "climate change", "fire prevention", and "prevention specialist". The Midwest and Northeast bigrams include "forest fire(s)", and the Northeast has "cleared forest." All have "national forest".

Oil
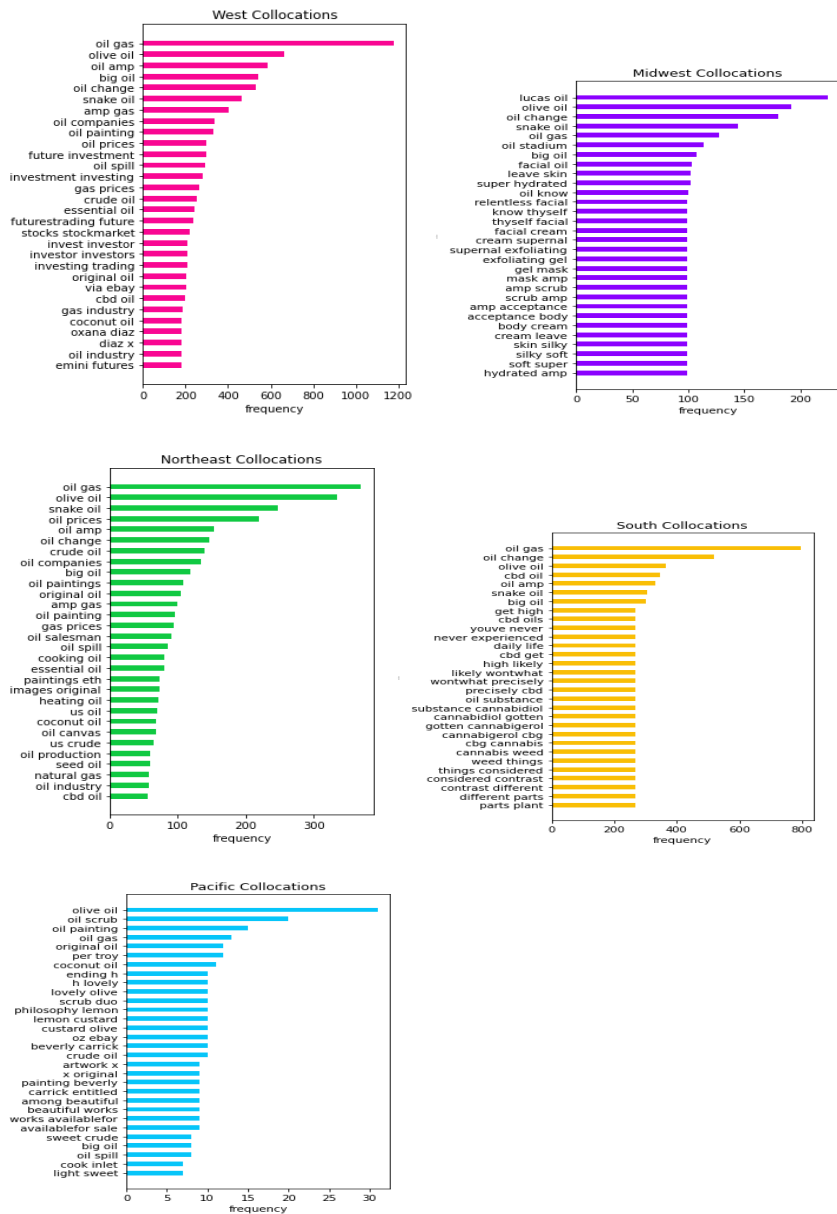
Figure 12: the top 30 "oil" collocations for each region.

The West has four environment-related bigrams: "oil spill", "climate change", "natural gas", "and "fossil fuel." There are also bigrams such as "oil industry", "oil company", and "big oil". The Pacific has "oil spill". In the Midwest, the focus is on oil products and there are no environment-related bigrams. The South doesn't have environment-related bigrams either. The Northeast and Pacific both mention oil prices and companies, the Northeast more than the Pacific.

Plastic
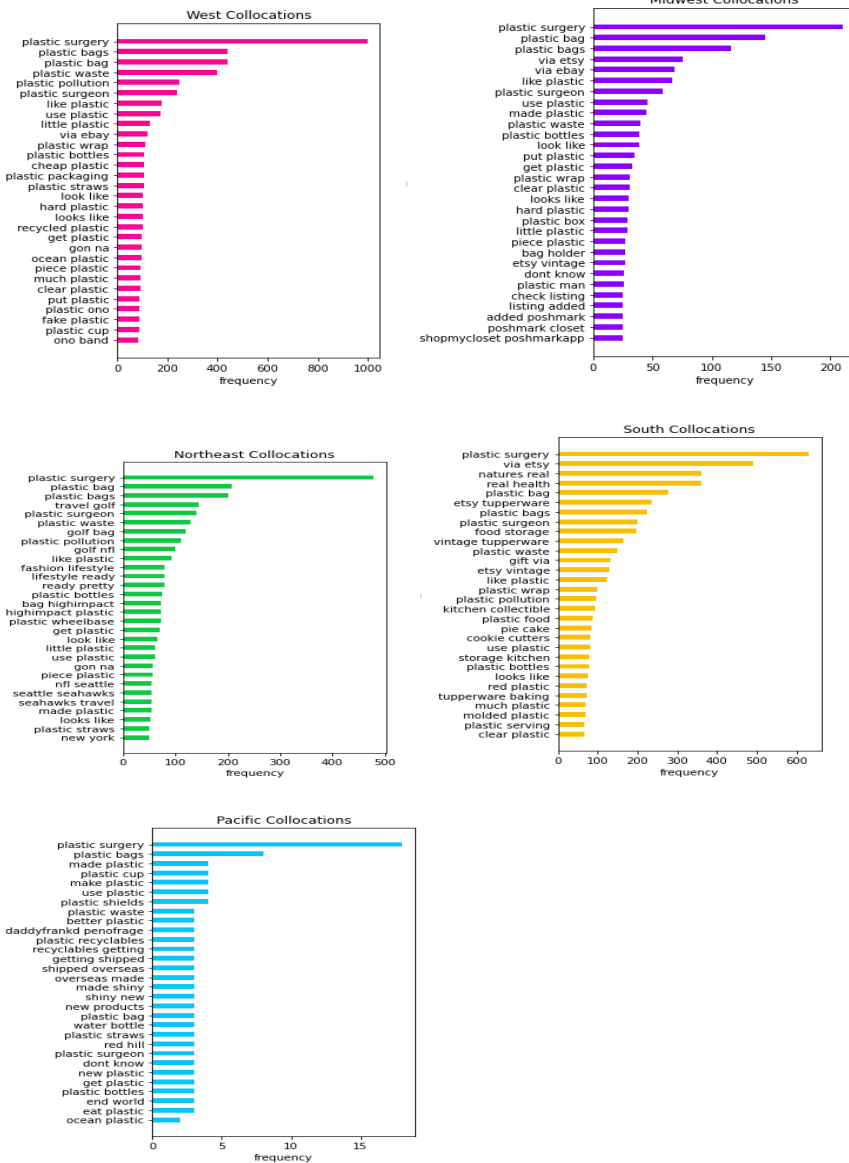
Figure 13: the top 30 "plastic" collocations for each region.

In the West, four environmental factors relating to plastic are mentioned: "plastic waste", "plastic pollution", "ocean plastic", and potentially "recycled plastic." The Pacific has "plastic waste", "ocean plastic" and two bigrams relating to plastic recyclables. It also has the bigram "eat plastic" which could be referring to plastic pollution in oceans. In addition, the South and Northeast have "plastic pollution" and, along with the Midwest, "plastic waste".

Soil
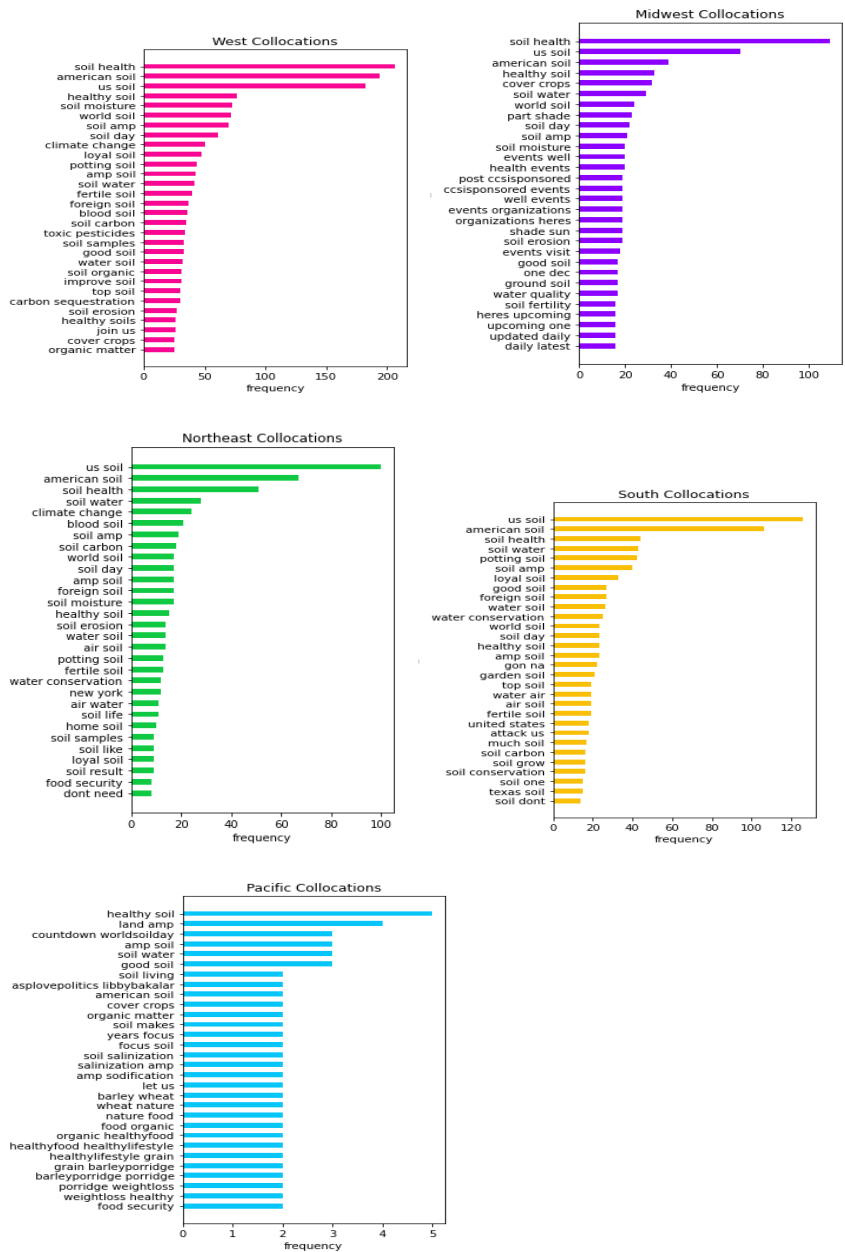
Figure 14: the top 30 "soil" collocations for each region.

The West has five bigrams that are environment-related: "climate change", "soil carbon", "carbon sequestration", "toxic pesticide", and "soil health"(which is present in all the regions). The Midwest has three related to the environment: "soil health", "water quality", and "soil erosion". The Pacific has "soil salinization", and the South has "water conservation", "soil conservation", and "soil carbon". It should be noted that these environment-related bigrams

could be from discussions about farming practice rather than environmental advocacy, as the two topics overlap. "climate change", which is the most obvious indicator of environmental concern, is present in just the West and Northeast. The Pacific mentions "food security".

Analysis

Based on the above data, topics that are narrower and directly related to the environment, such as "forest", "plastic", "soil", and "oil" are bound to be discussed in environment-related contexts. However, the collocations for these topics were not dominantly environment-related, they were just more environment-related than those of the broader topics like "air", "coast" and "fire", which had little to no environmental relevance. Overall, environment-related conversation does not have a large role in general Twitter discussion, and varies based on its relevance within each region.

Conclusion

RQ 1a: Is there a correlation between geographical distance and similarity in interests with regard to environmental issues?

From the results of our data, we can conclude that there isn't a general homogeneity regarding the environmental topics discussed in the regions of the United States. We also conclude that the geographical distance between two regions does not have an impact on the similarity in interests of the users from those regions. We could see this in the region summaries, where there was no trend of regions reflecting the same interests as their neighboring regions.

RQ 1b: Is there a correlation between geographical distance and similarity in how an issue is discussed?

Similar to RQ 1a, there isn't a high correlation between geographical distance and similarity in language used when discussing a topic. We saw this when looking at hashtag similarities, where higher geographic proximity between two regions did not guarantee a higher cosine similarity between their hashtags.

RQ 2: What aspects of geographical regions have an impact on commonalities in language use and environmental interests of Twitter users?

Our region summaries data and environmental relevance data support that Twitter users are most likely to talk about issues that are relevant to their own region. This suggests that if one were trying to spread awareness about an issue on Twitter, users from regions that are experiencing a similar issue would be more likely to respond than those who are not.

RQ 3: Do environmental topics play a large role in Twitter discussion?

The collocations from our environmental relevance data reveal that Twitter users generally don't prioritize environmental topics in their everyday discussion. This would make it difficult to advocate for an environmental cause on Twitter.

Future Work

This study could be reproduced on a larger time scale with more data. Data collected on a larger time scale would more accurately represent the interests of users from each region. Regarding the volume of data, two factors limited the amount of data that could be used from the amount collected. First, the data collected was not limited to the United States, so the data that was from outside the United States was discarded after collection. Also, user location is provided optionally by the user, so a number of collected tweets were discarded as they didn't contain the location data needed for our study. This should be kept in mind when performing a similar study. In addition, we noticed that there were advertisements in our data that could have affected the results of our study. In future projects, these ads should be removed to improve the accuracy of the data, as they do not reflect general Twitter discussion.

Other things to consider are the keywords used to collect the data. For this study, we used ambiguous keywords such as "air" to see if environmental topics played a role in general Twitter discussion(see Methodology). If one wanted to track the regional relevance of a specific issue that was taking place in one or two regions, such as Hurricane Ida, using the more specific keyword "hurricane ida" would allow clearer tracking of the issue's discussion than using a keyword like "wind", which won't always be used in relation to Hurricane Ida.

Our study concludes that Twitter users who live in regions with similar problems are also

more likely to discuss the same topics. This brings up the question as to why this phenomenon occurs. This could simply be because users don't have interest in topics that aren't directly relevant to their own lives. However, it could also be related to social media algorithms, which possibly only expose people to issues that directly concern them, preventing them from being educated about issues that are important to other regions of the United States. This question can be further researched.

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AIDS Epidemic—Origin, Mechanism, Stigmas, American Struggles, Mental Issues and Cure By Arshan Khatri

Abstract

There have been many plagues and Pandemics before, affecting people in negative ways. The AIDS Epidemic was an unexpected one, putting the victims at high risk of Immune deficiencies and breaking them down mentally. The Acquired Immune Deficiency Syndrome (AIDS) disease is caused by the HIV viruses, a group of very latent viruses, which makes them more so threatening. AIDS was not just a medical challenge but also a political one. The early 1980's shook the world with unfolding of one of the most fatal disease killing around 690,000 humans in 2020. The Good News is that the statistics are decreasing with the advent of modern day technology, awareness and prevention efforts.

The AIDS Epidemic was a huge challenge to the Healthcare systems around the world. This disease most likely originated from Western Africa and seemed to have transferred from non-human primates to human beings. This virus then traveled across the world when Africa was colonised and when sex trade began. It reached United Status; California and New York were its primary targets.

It started among gay men in LA and San Francisco. The symptoms were of ***Pneumocystis Pneumonia*** (PCP). A cancer type called ***Kaposi Sarcoma*** was also diagnosed. Not only gay men but people who used intravenous drugs were also vulnerable to catching HIV. At first the CDC or the **Center for Disease Control** couldn't understand much and they needed fundings from the government to do Research; they were made fun of at the press for reporting a epidemic that was prevalent in gay men. It was too late; People were dying in big numbers.

The government was too late to help. After the president gave the funds, the research began nationwide, collecting data. Drugs were proposed like the **AZT**. Tests were conducted to check the usability of these drugs but the people were inpatient. They pledged against the **NIH** and formed support groups like ACT UP.

As the studies happened, the understanding of AIDS cleared more and more. At the beginning, AIDS was subject of stigmatisation and mockery to the regular people. AIDS patients like 13-year old Ryan White were not allowed to attend public places and refrained to

attend schools. Soon though this changed, people began to mature and grasped the does and don'ts of this global Epidemic.

Many treatments like **HAART**, **Stem Cell Transplant** and **Bone Marrow Transplant** are being practiced. There are constant efforts made to educate people about precautions, treatments, sexual behaviour and more, to undo the errors of the past. Unfortunately, the deaths happened due to the carelessness of the government officials, people and health care workers couldn't be undone. Slowly but surely, the future is looking promising for AIDS considering the new breakthroughs in health care systems, public support and the governmental aid. We can only get better at it if only the patients, doctors, people and government work together in harmony.

Origin of the Disease

Microorganisms are both harmful and beneficial to mankind. Our bod7y has millions of bacteria, fungi, viruses etc. but they don't pose any significant damage to us. In fact some microbes in our body help us in major ways, their absence can lead to illness. These microbes take their nutrition from the host body and grow, this relationship is called **commensalism**. The question arises, then how do they become fatal sometimes? The answer—virulent evolution of these microbes into infectious pathogens and external pathogens from different species entering a human population through various ways like hunting, eating, agriculture habits and many more.

The process by which pathogens enter from a non-human host to a human host is called **Zoonosis**. We think, HIV is a zoonotic disease.

The central point of discussion when it comes to the HIV is Africa, particularly Western Africa. In Africa, the primates had **SIV** (Simian Immunodeficiency Virus) strains from the Genus *Lentivirus*, which seemed to live in harmony with their primate hosts. The main concern is their **crossover** to the Human, there were many theories proposed as to how did that occur. The most prevalent is the **'Bushmeat Trade'**, which involved hunting of animals especially primates for food and other purposes. The hunters were regularly subjected to the animal's blood and any cuts or injuries in the hunter's body led to the mixing of their bloods and subsequently the Crossover event occurred. However, the notion that the primates

were unaffected by the SIV strain they had, is challenged today. Most likely, this crossover event took place in **1930s**. In a nutshell, the transfer of these SIV strains from various primates like Chimpanzees, monkeys was the root of a tragic epidemic which would horrify the people of the world after a few decades.

A Brief Scientific Account

A virus is protein with genetic information within the protein coat. The genetic material in viruses can either be DNA or RNA. In the case of **HIV** (Human immunodeficiency Virus), it belongs to group of *Retroviruses,* which have RNA as their genetic information. Viruses r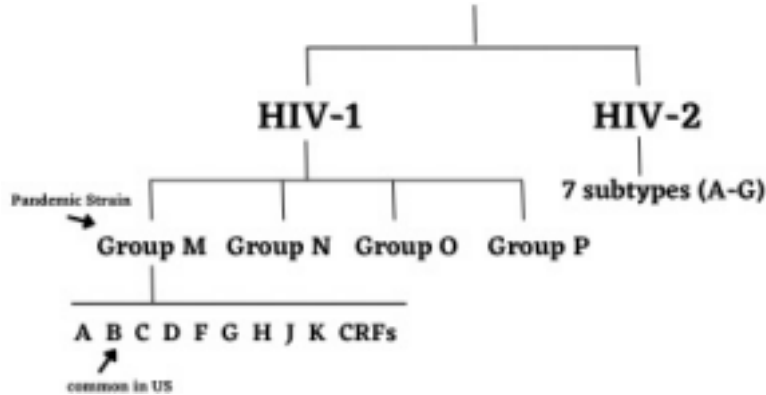equire a host to survive and multiply, they inject their genetic information into the cell and get incorporated in the host's genetic material, thereby multiplying and forming new viruses. Let's see the mechanism with the help of an illustration-
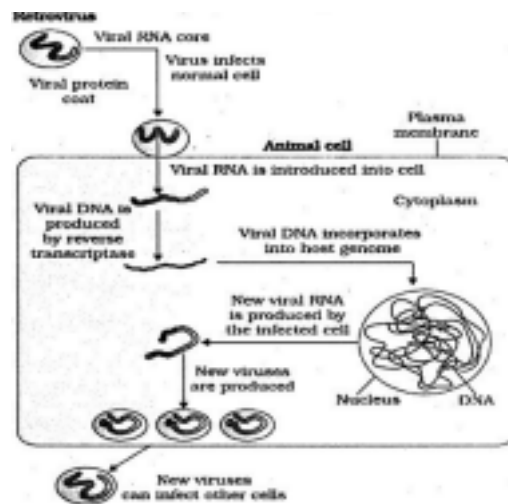
As you see in the figure, once a retrovirus injects it's RNA into the host cell, an enzyme called **Reverse transcriptase,** transcripts the RNA into a double-stranded DNA. The viral DNA then wends its way through the nuclear pores to gain entry into the nucleus. HIV integrase then inserts the viral DNA into human chromosomes, where it remains for the life of the cell. Initially, the HIV provirus was thought to insert randomly. However, studies made possible by complete sequencing of the human genome revealed that HIV preferentially integrates into actively transcribed genes, a feature that may further enable its replication and spread. This process takes long time to express itself in the form of a disease hence are called *Lentiviruses.* As a natural way to fight back, the affected cells release

HIV-1   HIV-2

7 subtypes (A-G)

Pandemic Strain →

Group M   Group N   Group O   Group P

A B C D F G H J K CRFs

↗

common in US

Interferons, which aids to avoid further infection.

The types of HIV—

•The HIV I strain is most similar to SIV strain in Chimpanzees, subspecies ***Pan troglodytes*** (common chimpanzee).

•The HIV II strain is most closely related to SIV strain in ***Sooty mangabeys***.

In the time, when the tragic event of crossover happened probably in Kinshasa, in the Democratic Republic of Congo or the Western Africa and as the colonial period casted into the African history, cities began to become more populated and the large distances between cities shrank down. These series of events along with many other factors like; Sex trade and commerce contributed to the terror that would be faced by generations to come. It wasn't until the 1980s when AIDS started showing its threat in the United States, Scientists began Speculating that the virus began in **Haiti** and with a similar phenomena occurring across a belt in Africa, they proposed that the virus travelled across the Atlantic from Africa to Haiti and then from Haiti to **California**. It travelled across **Europe and Asia** simultaneously.

Homosexual Men and The HIV—An Interesting Event

It was May 1981, Dr. James W. Curran, a STD specialist at the CDC (Centres for Disease Control) was holding an early draft of the June Morbidity and Mortality weekly report that said- Between October 1980 and May 1981, 5 young and previously healthy men in Los Angeles showed signs of peculiar diseases and fungal infections, one man in particular had a headache for 2 months and another for 5 whole months. All five men were diagnosed with Pneumocystis pneumonia (PCP), a rare and serious fungal infection which targets the Immune system of an individual. After some interviewing, doctors found no mutual contact or sexual

relations amongst these 5 men, though the report clearly said that they were openly gay men. This unusual scenario rang a suspicious alarm in Dr. Curran's head. By the time the report was published next month, 2 men had already died. Soon followed by more and more information coming from all around the country on men diagnosed with PCP, the CDC launched a special task force called 'kaposi sarcoma and opportunistic infections' on June 8th, 1981. Dr. Curran was elected as the Chair of the committee for the three-month assignment. Around the same time, Dr. Arye Rubinstein, a paediatric immunologist in New York noticed a similar outbreak in 5 infants showing symptoms of Immune suppression and PCP. He came to know that most of their mothers were sex workers and intravenous drug users. Dr. Rubinstein dismissed these cases as his colleagues saw no connection between gay men in California and infants in New York.

The next month, in July, the CDC published another report citing a cluster of strange diagnoses— 26 young gay men all around California and New York were experiencing something unusual, they had blue and purple skin lesions, swollen lymph nodes and tumours throughout their bodies. All 26 of these men had Kaposi sarcoma confirmed, 4 of them with PCP alongside the sarcoma. Dr. Curran began to take notice that if we were to compare the PCP diagnoses with the Kaposi sarcoma diagnoses, they would almost paired each other on demographics and geographic locations. If Curran could find what this connection was, he could stop it from spreading more, but it was far from his control. People outside the medical community began to take notice. On July 3rd 1981, the New York Times released an article titled 'Rare cancer seen in 41 homosexuals', the article speculated on possible causes for this disease but didi t provide solid scientific evidences to support it, however the article did cite Dr. James W. Curran as a reference. It also mentioned that straight men were not at a risk of contracting the disease. The CDC went on a high warning signal, they realised that it is not a joke, if they wouldn't act fast hundreds of more people could die. Dr. Curran had very little information on Kaposi sarcoma and the PCP and very limited funding. So, he and his team at CDC began analysing reports of requests for Pentamidine isethionate, the drug prescribed when a patient was suffering from PCP, because the PCP was incredibly rare condition, doctors had to request the drug directly through the CDC, which made it easy for Dr. Curran to access the information.

Interviewing 90% of this drug users, Curran realised that it was spreading at an exponential rate in openly gay men. At this stage, Curran and his team had two working theories as to why it was prominent in gay men—

•If it was spread sexually, then gay men were more likely to have multiple sexual partners as evidence showed in patient interview.

•Poppers—drugs made of Amyl nitrate to enhance sexual pleasure and was exclusively used by gay men. The drug use could've been a factor for the outbreak.

Concerns in the gay community were increasing but because of Homophobia, it didn't get the much needed attention and the already underfunded CDC can only do so much. On 11 August of that year, a group of 80 men in New York City raised upto $6,635 to put towards research.

That September, Bobbi Campbell and his partner Bobby Halyard began a honeymoon trip driving down the coast of California, when they returned home later that evening, Bobbi removed his hiking boots and was greeted by purple skin lesions in his legs, he ignored these spots and assumed it to be blood blisters because they didn't cause pain. He figured they would clear up in few days. Bobbi's partner recommended him to see a doctor as he has seen an uptake on a disease in gay men which started from the feet. Bobbi's doctor performed biopsy on the skin lesions and soon after, Bobbi's worst fears came to life. Despite the CDC studying the disease for a year now, there was on cure visible and the federal government was ignoring the dangerous crisis. After his Kaposi sarcoma diagnosis, Bobbi travelled through five phases of lose- Denial to his diagnoses and anger on the people close to him followed by bargaining between working full time, College and cancer treatments, these struggles gave ways for Depression to join his companionship, as a result he started abusing Alcohol. As he moved closer and closer to his final phase, Acceptance was the only way out. On December 19th 1981, Bobbi Campbell was the first men to publicly come out as a victim of Kaposi sarcoma. He knew that this way the only way to help others who were in the same circumstances as his, to come out and get proper treatment.

Around the same time, the New England Journal of Medicine reported a similar outbreak amongst intravenous drug users, of the 13 people interviewed 6 were gay, 7 used drugs while 2 of them fell into both categories. Researchers realised that intravenous drug users were also at

risk. The clear conclusion is that PCP and Kaposi sarcoma are somehow linked. Over the period of next few month, the CDC published reports speculating groups which are most vulnerable to the infections.

In July of 1982, they released a report explaining 34 cases of Kaposi sarcoma amongst Haitian immigrants. Later, a Morbidity and Mortality report put a whole new group of at risk— those with Haemophilia A. Haemophilia is a genetic disease where certain blood clotting factors don't function, as an outcome of this disease the patient requires regular blood transfusions which puts him at risk.

In a nutshell, according to the theories and analysis at the time by the CDC, these were the most vulnerable groups—
•Homosexual men,
•Heroin and other intravenous drug users,
•Haitian immigrants and
•Hemophiliacs.

Next step by The Researchers

Dr. Curran and Dr. David Auerbach began analysing reports, they figured that this outbreak should have been linked to sexual relations. Being an expert on STDs, Dr. Curran felt he could take an upper hand at the epidemic. They started by analysing the cluster of cases, out of the first 19 people diagnosed with PCP and Kaposi sarcoma and similar immunodeficiency diseases in Southern California , 8 had already died. Dr. Curran and Dr. Auerbach began a series of interviews of these patients and talking to those close to them, they were able to trace sexual history of 13 of those men- 4 patients had passed sexual encounters with other and 9 of those patients shared a partner with another patient. In order to keep the account of this tangled web, the doctors began to name them based on their locations so, patients living in LA were labelled as LA1, LA2 and so on. In the beginning, they kept this research limited to Southern California. After asking series of questions to the patients throughout California, many of them reported having sex with a handsome blonde flight attendant. Curran and Auerbach expanded their study to more parts of the country particularly New York, patients in NY also mentioned a handsome blonde flight attendant who frequented bath houses and bars in San Francisco but, of course they didn't know his name and labelled him Patent O , meaning outside California. Until one unique

interview, where a patient took out his appointment book to reference this flight attendant Gaëtan Dugas. Curran was sure that Dugas was patient o. The CDC met Dugas where he claimed to have about 750 sexual partners in just 2 years. The doctors were eager to warn the patient who had sexual relations with Dugas. They published an article to spread awareness.

Naming the Epidemic- 'AIDS'

Armed with their latest findings the CDC devised an umbrella term- AIDS or Acquired Immune Deficiency Syndrome. The CDC hoped that this term would help people to understand the severity of the epidemic but, this hope didn't benefit them, instead when the government officials of the highest authority refused to take AIDS seriously, the CDC found their hands cuffed. This ignorance by the federal government was sufficient to humiliate peoples life with bad humiliation. The lack of funding, increasing cases and death tolls made the situation even more catastrophic.

Stigmas Associated With AIDS—Ryan White and His Struggles

Ryan White- an young boy from Indiana, US was unique from the beginning, he was born with Haemophilia A. Although Ryan hated being different from the very start and he kept it to himself but, being a haemophiliac comes with its own visible challenges like staying away from injuries, coming up with bruised body due to the disorder and being on the spotlight of people's gossips and much more. However Ryan would try to stay optimistic and religiosity convinced him to believe that God would help him live with this disease. Around 1976, Ryan's doctors gave him regular supply of Factor 8- a blood clotting protein which ensures no major blood loss on minor injuries. This would permit Ryan to live seemingly normal life but it brought risks as well. In his biography, Ryan remembered a conversation between his mother and his grandfather, in it his grandfather told Ryan's mother that AIDS can spread through blood transfusions, he pleaded Ryan's mother to stop those doses as it were derived from donors blood which may have been affected. However, neither Ryan nor his mother cared. He felt sick throughout the summer of 1984 and didn't expect it to be any thing major but, in December of that year Ryan's grandfather's fear proved to be true. Ryan White was diagnosed with PCP at the age of 13, her mother went into denial and it was at that time that she realised the Stigmas associated with AIDS.

People presumed that AIDS was spread via touch, using same toilet seats, drinking from the same cup etc.

The reason why AIDS is so deadly is that it attacks a person's immune system particularly T-Cells, which are responsible for fighting diseases. Not only the person with HIV is exposed to other virulent diseases but also use these White Blood Cells to produce more viruses. Ryan had a regular visit to his hospital for his Gamma globulin Therapy. This therapy is like blood transfusion nut with antibody-rich blood plasma instead of whole blood, although it was not a permanent or long-term cure but, it did help him short time by providing strength to the T-Cells to fight infections. Ryan also had to take nasal treatment like Pentamidine- main drug at the time for treating PCP. These two treatments helped him to recover from PCP but did nothing to treat his HIV infection.

Ryan Grandfather read that after just 6 months from the diagnosis, AIDS patient would die. While other students of his age plan on math tests and dance events, he had to prepare to die. In Ryan White: My own story, he said " I bet if live 5 years I can beat this thing or I will die trying". Ryan received a phone call from a local reporter and it was printed on the newspaper that Ryan White has AIDS, Ryan worst nightmare came to become a real phenomena. At the time the stigmatisation of AIDS was strong because it started from gay men and sexual interaction and intravenous drug users, he knew that this would soon follow into a topic of gossips for everyone at school and bullying him for his situation. He survived, making into the summer of 1985 by proving his doctors wrong and his neighbours by acting a normal boy when his school started. Ryan was constantly subjected to discriminations even at the Church, he either sat at the first pew or at the last. Around that time, an elite film actor Rock Hudson was diagnosed with HIV and it plagued the media as he came out with his homosexuality. This major coverage brought a hope that the Reagan Administration would help the situation with funding as Mr. Hudson and the President were friends, unfortunately to the disappointment of the masses it didn't move an inch. However, it helped raise funds so that researchers could find a possible treatment at a large scale. By the time Ryan prepared for his seventh grade, 12 medical centres launched a big clinical study, finally the resources were in place and the stakes couldn't be higher. A cure wasn't about saving people's lives but maintaining the quality of their living as well so that they can play with their peers normally or sit wherever they wanted at Church.

Ryan's mother wouldn't let his son go to school and deal with all the discriminations, gossips, bullying etc. but, Ryan insisted. Finally, he was given the permission to go to school by his mother. In the fall semester, the parents at school filled a petition against Ryan's school entry, the parents were approved of their request. Ryan's mother sue the local district and the law process wasn't quick so, after a mutual understanding the district agreed to give Ryan a tutor free of charge. But, that didn't work out as the tutors would come up with excuses so as not to come in contact with him. Ryan was devastated by the experience and the indecorous behaviour of the school district. Ryan was astounded by how much people of the media were kind towards him. Ryan became very popular as a boy with AIDS. His mail box was flooded with gifts, cards and letters. In an eventual pace, the HIV was seen as an real crisis rather than the stigmatisation of the situation. By the end of 1984, the president didn't address anything publicly but one year later, when the death tolls peaked at about 6000 he had to speak on the catastrophe. When he finally did, he defended the federal government. The research was funded with only $126 million, which was not enough, after some back and forth, the researchers managed to get $190 million as a funding to aid the HIV research. While the activists raised awareness in Washington DC, Ryan was fighting the law at Kokomo. His court case was long and tiring but he won the case and was allowed to go to school after one and a half years. It was miraculous that Ryan managed to make it alive this far. Soon, Ryan and other HIV patients saw a light of hope. On march 20th of 1987, the FDA approved a anti-HIV drug in the USA— Azidothymidine or AZT. This anti-retroviral drug couldn't cure the HIV infection but help to prevent its further growth and development. This AZT was discovered accidentally when a scientist tried to make a drug for cancer treatment. However, the drug couldn't make it to the market because it was never able to make pass the animal trials as it was ineffective. The researcher found that AZT can block the enzyme that HIV uses to take over a cell- Reverse transcriptase. This was highly controversial because the test period for this drug was about 20 months while the test of this scale needs at least 10 years but, the FDA was at immense pressure to speed up the process.

Azidothymidine- Trials and Mistakes

During the brief trial, 300 participants diagnosed with AIDS were randomly assigned pills- a placebo pill and a AZT pill. The doctors weren't allowed to know neither their patients.

In just 4 months of human trial phase the researchers ended the tests. During the trial , 1 person taking the AZT pills had died in contrast, 19 placebo pill takers lost their lives, the FDA claimed that this was enough evidence to approve the drug was safe, why should we wait after people are dying anyways. The problem was the research wasn't as scientific as the researchers expected, they measured their results based on how many patients survived simultaneously ignorant of that fact that AIDS isn't a inherently fatal disease, it weakens the immune system, it's the opportunistic infections that technically kill the patient. So, if a patient suffered from Diarrhoea and if the doctors gave him life saving treatment; it was the AZT that got all the credits as there were no standardised methods for treatment. Besides, the rumours suggested that the patient might have exchanged pills with each other, if this were true, the researchers had no way to identify or verify that. AZT also posed serious health side effects like Nausea, vomiting and liver problems. Despite its major health hazards, the doctors thought it couldn't get any worse than the death that would eventually come without the cure at least it would help them in some way and by that, the drug made it to the market.

There was a Worse Disease Than AIDS

Ryan was not aware of the side effects of AZT and the drug wouldn't suit him due to his past Hepatitis experience, it may cause liver problems. His doctors seem to realise that it was better than an untreated HIV infection. By this time, he lived for a year and a half with AIDS-10 months more than he was expected to. He hoped that he can get through AIDS but not through the stigmas ass associated to it. Ryan returned to his school to finish his 8th grade and he did that amidst of bullying, discriminations and harassments. Strangely enough Ryan felt more accepted and appreciated amongst strangers and celebrities. Sadly, Ryan felt hunger for dignity and honour. Even though the CDC had debunked the theory that AIDS can spread through casual contact, the students and teachers at school refused to shake Ryan's hands or use the same toilet as his. Ryan was the centre for the homophobic jokes. People accused Ryan coughing at the food in grocery stores and spit on people who annoyed him. The students would deface his looker and write slurs on his folders. Gradually Ryan's health was deteriorating and our hero took his last breath on 8th of April 1990 at 18 years of age.

Possible Cure and Treatment

1991 saw a new drug hitting the market- Didanosine, an oral solution of powder and water. When a patient's cell absorb Didanosine, it severely slowed down HIV's ability to replicate. It wasn't a cure and had dangerous side effects including potential neural damage. However, it was effective at decreasing the progression of AIDS in patients who previously took AZT. The support and fundings led the FDA to approve highly active anti-retroviral therapy or HAART in 1996. HAART referred to any treatment regimen that involves two or more prescription medications for example, researchers found that Didanosine is more effective when used in combination with AZT. Each form of HAART is customised to a patient's specific need. It works best when patients can have honest conversation with their doctors on what is working best for them, not feeling shame and free of judgement. While HAART can't cure AIDS it can help the patients to control and limit its spread throughout the body.

Timothy Ray Brown was cured of AIDS. We didn't go public until 2010 before that he was just called 'The Berlin Patient'. We went through a Stem Cell Transplant to treat his Leukaemia in 2007. Within 3 months HIV couldn't be traced in Brown's blood. Another possible cure was appeared in 2019, when. Nature reported on a patient in London who got a bone marrow transplant, he has no detectable AIDS in his blood.

Meanwhile, the efforts are being made to aware people of its spread. In the past decade the FDA approved a drug for HIV negative individuals who are high risk of contracting the disease- PrEP or Pre-exposure prophylaxis.

Unfortunately, HIV had another surprise in store – the persistence of small amounts of virus in a latent, drug-insensitive state within resting CD4 memory T cells. While rare (1/100 000 to 1/1 000 000 white blood cells), such latently infected cells display a half-life of at least 44 months; thus, patients will require at least 60 years of treatment before this reservoir is eliminated. Predictably, within weeks of HAART discontinuation, viral loads rebounded in patients to pretreatment levels. If the problem of HIV latency is not solved, a true cure of HIV will not be possible. Surprisingly, male circumcision seemed to prevent AIDS.

In 2016, Nature published a finding that Dugas was not the initiator of the epidemic rather the studies of his blood samples showed that the strain of HIV he had was already prominent before he started working as a flight attendant with Air Canada in 1974. In other words, Dugas wasn't the demonised figure that he was labelled as.

Looking Ahead

There are constant efforts made to educate people about precautions, treatments, sexual behaviour and more, to undo the errors of the past. Unfortunately, the deaths happened due to the carelessness of the government officials, people and health care workers couldn't be undone. Slowly but surely, the future is looking promising for AIDS considering the new breakthroughs in health care systems, public support and the governmental aid. We can only get better at it if only the patients, doctors, people and government work together in harmony.

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Why Is Mental Health Important In Young Children? By Avantika Guru Naidu

Mental Health: What is it?

Mental health is the state of well-being in which a person understands his or her behaviors as well as the actions which result from those behaviors. Mental health awareness and support is necessary in childhood and adolescence because developing strong mental health at a young age can have positive impacts throughout life. Conversely, when mental health is not supported in childhood, people can experience developmental delays or other health issues. Mental health includes our "emotional, social and physiological well-being" (CDC). Our mental health affects us and the people around us, the choices we make, the way we think, and how we feel. In this research paper, we will discuss the factors that contribute to the development of poor mental health as well as methods that support strong mental health.

Good mental health is an integral component of a healthy childhood. The World Health Organization says that "adolescence is a crucial period for developing social and emotional habits important for mental well-being" (WHO). Children need to be supported in building strong relationships with themselves and others to learn to adapt to changes in their childhood.

What Can Lead To Mental Health Complications?

Internal and external factors can lead to mental health consequences. Internal factors are characteristics within the individual, such as negative self-talk, rigid thinking, and unrealistic expectations. External factors are those that occur around the individual, such as school, family, friends, and major life changes. The more risk factors a child is exposed to, the higher the risk of developing a mental health issue. Peer pressure, exploration of sexual identity, the increased use of technology and media exposure are a few of the primary factors which can contribute to stress in a child; if left untreated, everyday stress can lead to mental health complications. Media and technological influence can confuse a child's perception of reality. Unhealthy relationships with peers can lead to violence such as bullying and sexual assault, causing vulnerability and detrimental mental health effects. Harsh parenting and socioeconomic issues can also result in a child feeling pressured, thus making them more vulnerable to the grasp of mental health disorders. Some adolescents are at a greater risk of exposing themselves to mental health

conditions due to factors resulting from certain norms of society such as living conditions, discrimination and lack of quality support and services. In turn, children who develop mental health conditions consider themselves socially excluded, discriminated against, more prone to physical illnesses and risky behavior behaviors, and educational difficulties. Common disorders that affect children and adolescents include emotional disorders, behavioral disorders, eating disorders and self-harm or at worst suicide.

Emotional Disorders

Emotional disorders first present typically during early adolescence. It is estimated that 3.6% of 10–14-year-olds and 4.6% of 15–19-year-olds experience an anxiety disorder. Depression is estimated to occur among 1.1% of adolescents aged 10-14 years, and 2.8% of 15-19-year-olds" (WHO). Emotional disorders such as depression and anxiety are common in youth due to stress with school, friends, or family. Changes in mood and external factors can result in unexpected bursts of emotional displays. Adolescents can also correlate their symptoms to physical symptoms such as headaches and nausea. Emotional disorders can affect life practically anywhere. Social withdrawal and seclusion are common signs of emotional discomfort. At its worst, emotional disorders can lead to self-harm and even suicide if the teens do not receive adequate support.

Behavioral Disorders

Childhood behavior disorders are extremely detrimental to adolescents and can lead to consequential health issues if left untreated. This form of a disorder in childhood is proven to be the "second leading cause of disease burden in young adolescents aged 10-14 years and the eleventh leading cause among older adolescents aged 15-19 years" (WHO). Behavioral disorders can result from emotional disorders, cause them, or be a standalone issue.
Common disorders include:
1. Attention Deficit Hyperactivity Disorder (ADHD)
2. Oppositional Defiant Disorder (ODD)
3. Autism Spectrum Disorder (ASD)
4. Anxiety Disorder
5. Depression

6. Bipolar Disorder

7. Learning Disorders

8. Conduct Disorders

With proper support from parents, guardians, or professionals, some disorders can pass as the child matures and understands the world around them. Support requires understanding and patience. Despite this support, some disorders may persist or are untreatable and thus require compassion and sensitivity to help the child grow and succeed even if they possess a disability. If behavior disorders are not treated early, in the worst sense, they can lead to the practice of criminal activities and death. The table below from the CDC shows the percentage of children between ages 3 to 17 with depression, anxiety, or behavioral disorders. Behavioral disorders are most common amongst children 6-11 years of age, while adolescents ages 12-17 are most susceptible to anxiety and depression. This is likely due to the difference between the external and internal factors at each stage of life, such as school and work.

Depression, Anxiety, Behavior Disorders, by Age
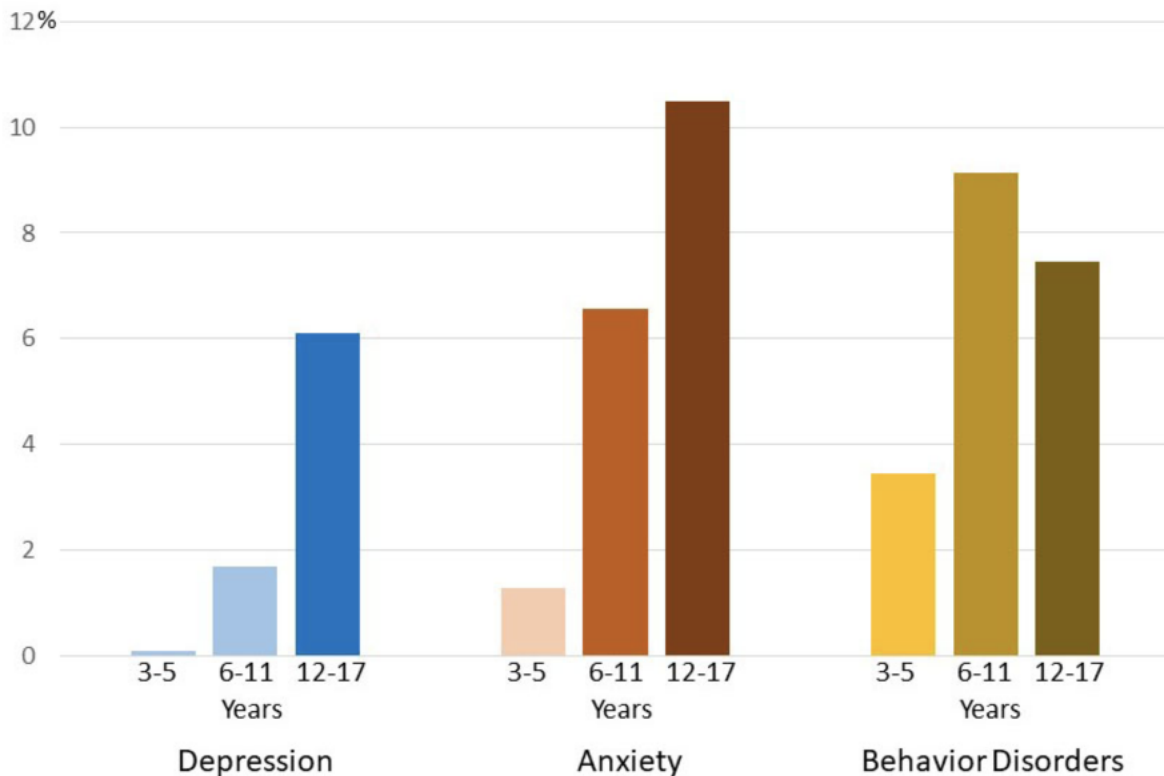
Eating Disorders

Eating disorders often develop due to underlying causes which can worsen due to troubling social, mental, or physical relationships with one's peers. Examples include anorexia nervosa, bulimia nervosa, and binge-eating. Eating disorders are more commonly associated with females than males, as new studies show that females are more likely to deal with brain activity relating to negative body perception than males. This form of disorder is detrimental to health and can coexist with other mental health conditions such as anxiety, depression, or OCD.

Suicide/Self-harm

Suicide and/or self-harm has shown to be the final resort a child or adolescent can take if their poor mental health continues to take over their mind. According to Boston Children's Hospital, "in 2019 suicide was the second leading cause of death among children and adolescents ages 13 to 19 — and the leading cause of death among 13-year-olds. It is the 10th leading cause of death among all Americans" (Boston Children's Hospital). Suicide and self-harm are most commonly associated with cases of adolescence who have underlying mental health conditions. Signs of adolescents' self-harm can correlate with:

- mental illness/psychiatric diagnosis/physical illness
- family history of suicide and/or exposure to suicide
- family history of mental illness
- physical or sexual abuse
- aggressive behavior
- lack of social support/social isolation
- difficulties in dealing with sexual orientation
- family disruptions
- traumatic events

Below is a table from the National Institute of Mental Health showing the leading cause of death in the U.S. for select age groups. Based on the data collected from 2019, suicide was the second leading cause of death from ages 10-14 and ages 15-24. Even though the death rate by suicide is much higher in the 15-24 category in comparison to the 10-14 category, it is appalling to how more young people die can die by committing suicide than through homicide or any

medical issue. Once again, the death rate is higher in the older age group because teenagers are faced with many more issues and pressure triggers such as work, college, tests, and love.

Rank	10-14	15-24	25-34	35-44	45-54	55-64	All Ages
Leading Cause of Death in the United States for Select Age Groups (2019) Data Courtesy of CDC							
1	Unintentional Injury 778	Unintentional Injury 11,755	Unintentional Injury 24,516	Unintentional Injury 24,070	Malignant Neoplasms 35,587	Malignant Neoplasms 111,765	Heart Disease 659,041
2	**Suicide 534**	**Suicide 5,954**	**Suicide 8,059**	Malignant Neoplasms 10,695	Heart Disease 31,138	Heart Disease 80,837	Malignant Neoplasms 599,601
3	Malignant Neoplasms 404	Homicide 4,774	Homicide 5,341	Heart Disease 10,499	Unintentional Injury 23,359	Unintentional Injury 24,892	Unintentional Injury 173,040
4	Homicide 191	Malignant Neoplasms 1,388	Malignant Neoplasms 3,577	**Suicide 7,525**	Liver Disease 8,098	CLRD 18,743	CLRD 156,979
5	Congenital Anomalies 189	Heart Disease 872	Heart Disease 3,495	Homicide 3,446	**Suicide 8,012**	Diabetes Mellitus 15,508	Cerebro-vascular 150,005
6	Heart Disease 87	Congenital Anomalies 390	Liver Disease 1,112	Liver Disease 3,417	Diabetes Mellitus 6,348	Liver Disease 14,385	Alzheimer's Disease 121,499
7	CLRD 81	Diabetes Mellitus 248	Diabetes Mellitus 887	Diabetes Mellitus 2,228	Cerebro-vascular 5,153	Cerebro-vascular 12,931	Diabetes Mellitus 87,647
8	Influenza & Pneumonia 71	Influenza & Pneumonia 175	Cerebro-vascular 585	Cerebro-vascular 1,741	CLRD 3,592	**Suicide 8,238**	Nephritis 51,565
9	Cerebro-vascular 48	CLRD 168	Complicated Pregnancy 532	Influenza & Pneumonia 951	Nephritis 2,269	Nephritis 5,857	Influenza & Pneumonia 49,783
10	Benign Neoplasms 35	Cerebro-vascular 158	HIV 486	Septicemia 812	Septicemia 2,176	Septicemia 5,672	**Suicide 47,511**

How To Improve Mental Health?

Adopting healthy sleep patterns, getting regular exercise, learning to manage emotions, and developing problem-solving skills are important habits which decrease the chance of mental

health complications in youth. Also, a supportive environment within and beyond the family and friend circle is beneficial. Mental health in youth needs attention as according to the CDC, "[approximately] 1 in 6 U.S. children aged 2–8 years (17.4%) had a diagnosed mental, behavioral, or developmental disorder" (CDC). Those who have shown good mental health often:

- Feel better about themselves
- Are easily able to adapt to new changes
- Feel involved in their activities
- Have healthy relationships with those around them
- Are both physically and emotionally healthy

If a child shows signs of poor mental health, there are many ways to make positive changes.

Changes Involving Parents/Family

A pivotal method of improving a child's mental health begins with the parents and close family members. "[Family] love and support and a strong relationship with you can have a direct and positive influence on your child's mental health. It can even reduce the chances of your child experiencing mental health problems" (Raising Children Network). Showing support to a child directly correlates with a positive reaction in the child's mental health.

Here are some way parents and/or caregivers can help promote a child's wellbeing:
- Showing love, affection, and support for your child
- Spending time with your child
- Praising your child's achievements
- Valuing your child's opinions
- Working together to find solutions to problems

These five ideas are a few of the many ways a parent or guardian can develop a healthy relationship with their child. Although developing a healthy relationship may not immediately result in a drastic improvement in your child's mental health, it is a long-term investment in health.

Physical Changes

Physical health is essential for mental health. Problems in physical health significantly increase the risk of developing long-term mental health complications. According to the Mental Health Foundation "nearly one in three people with a long-term physical health condition also has a mental health problem, most often depression or anxiety" (Mental Health Foundation). Young people are much more likely to develop poor mental health if they are not physically healthy. Encouraging a child to keep active, develop healthy eating and sleep habits, and avoiding drugs and alcohol will help the child to stay healthy, feel confident, manage stress, and have more energy to face their day.

The Aspen Institute Project Play developed a diagram which shows how physical activity correlates with health over a lifetime. As shown in the diagram, children who are physically active are able to perform better in their lives over a long-term period.

ACTIVE KIDS DO BETTER IN LIFE
What Research Shows on the Lifetime Benefits

THE ASPEN INSTITUTE
PROJECT PLAY

1/3 the rate of disability

Compression of morbidity

Reduced risk of heart disease, stroke, cancer, and diabetes

Intergenerational Cycle

Active parents are associated with active kids

More productive at work

Lower health costs

7-8% higher annual earnings

Higher self-esteem

Lower levels of depression and self-derogation

15% more likely to go to college

Less smoking, drug use, pregnancy and risky sex

Up to 40% higher test scores

1/10 as likely to be obese

Physically Active Children

EARLY CHILDHOOD

ADOLESCENCE

ADULTHOOD

Learn more at **as.pn/sportsfacts**

Caring For Yourself

Caring for oneself is also extremely important during the journey of helping one's child develop good mental health. Some might think that it is only important to focus on the child, but in reality, the child learns from the actions of the others around them. Showing self-care and confidence is a good way of modeling oneself to their child. Self-care encourages a parent/guardian to maintain a healthy relationship with themselves so that they can transmit the good emotions to others.

Here are a few ways you care for yourself:
- Build relationships with people with whom you can safely talk to about anything
- Make time for your own relationships and plans
- Make time in the day to relax and cope with stress. Take a few minutes to sit down, close your eyes, and just relax.
- Try different coping strategies such as routines, exercise, or hobbies.

Professional Help

Mental health problems are unlikely to get better on their own and sometimes professional help is needed. It is important to seek outside help if a parent/guardian is not able to adequately support their child on their own, as untreated mental health problems can affect the child's long-term wellbeing and quality of life.

Professional support options include:
- Therapy
- School counselors
- Psychologists
- Community health care centers

Poor mental health is not anybody's fault and is quite common amongst adolescents as they are trying to adapt with the growing world around them. The most important concept during this process is to not blame oneself or the child and to help the child grow and develop a positive and healthy relationship with themselves and their community.

What Are Some Resources For Mental Health Support?

Mental health awareness over the years has been significantly increasing. Society's attitude towards mental health has become more positive and welcoming. "People are becoming more accepting of mental health problems and more supportive of people with issues. They are more aware of common mental disorders such as depression and anxiety and are more willing to talk to health professionals and seek treatment" (NHS Digital). Also, there are many more resources relating to mental health support such as:

- FindTreatment.gov
- American Psychiatric Foundation
- American Academy of Child and Adolescent Psychiatry
- Mindful Learners

The evidence is clear: To better allow our children to be prepared for any obstacles or events in their lives now and into the future, they must learn to maintain a positive and healthy mental health. Staying physically healthy might allow us to live longer but staying mentally healthy will allow us to live the longest lives possible with as much happiness and joy as possible. Our mental health affects the way we think, feel, act, and cope with choices; our mental health affects the way we grow and adapt throughout our lives; our mental health affects who we are today and who will become. Take steps little by little each day to improve your mental health and watch how the way you view things in your life will differ. If not for yourself, think about how you want your children and family to live their best and fullest lives.

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Representation in Magazines… And Why It Needs to Improve By Zelda Gillespie

Brooklyn Nine-Nine and other great shows are much more diverse than such shows would have been a decade or two ago. Entertainment and media has become more diverse and the US has changed in levels of explicit bias associated with different skin tones. However, many things still show clear bias/prejudice including, for example, many forms of media and facial recognition software due to colorism (prejudice or discrimination against individuals with a dark skin tone). Magazines are one example of media and so we conducted an analysis of representation in magazines. Without more people understanding just how biased the magazine industry is, there will not be enough progress.

	Pale	Light	Medium	Brown	Dark Brown	Total
Ads	11	11	1	4	2	29
Articles	15	1	0	4	0	20
Total	26	12	1	8	2	
(percents)	Pale	Light	Medium	Brown	Dark Brown	Total
Ads	37.93%	37.93%	3.45%	13.80%	6.90%	100%
Articles	75%	5%	0%	20%	0%	100%

A sample of data from Forbes magazine describing how many of each skin tone is represented, created by the author.

When it comes to various forms of media, there is less representation than you think and with magazines that is absolutely the case. We looked at magazines from Forbes, Sports Illustrated, People Magazine and other common magazines to see whether there was adequate representation of different skin tones. What we found, in most cases, is that there is not good representation. Some magazines showed a clear bias against darker skin tones, including pictures of people with darker skin far less than people with lighter skin, editing some people's skin tones to be lighter, and/or not even trying to have the full range of skin tones represented. We used Forbes, a well known business magazine, and selected a sample of pictures of people and recorded the percentages of various skin tones. We collected this data and used Red Green Blue Color Space to visualize skin tones that are represented. We found that there was a majority of light/medium skin tones. For ads, there is slightly better representation and that might

be intentional as that is what people often look at. In the articles, however, there are almost all lighter skin tones represented especially when talking about the accomplishments of various International business owners in Forbes.
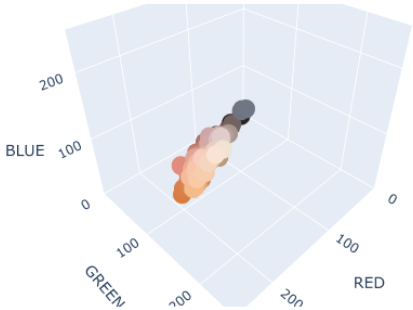

RGB cube representing a sample of data combined from ads and articles in Forbes magazine, created by the author.

We used numerical data to see the skin tones represented through the coordinates in the cube. There are some slight differences in the categorical and numerical data where you can see shadows and/or lighting in photos of people. Cameras are visualizing different colors through a combination of the colors red, green and blue.

This bias is not just in media but also in technology where there has been proven bias in facial recognition and in the way facial recognition works so that people with darker skin tones have a harder time getting recognized by the software.
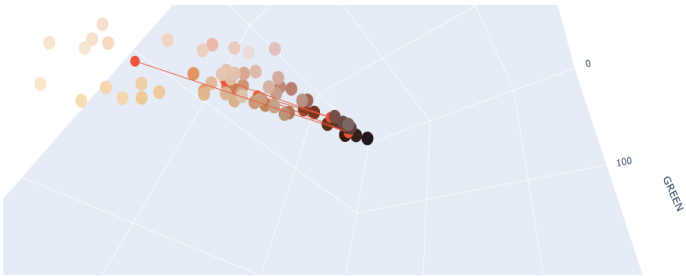
This is a scatter plot for Vogue, again with a sample of data from its magazine, created by the author. This is a fashion magazine without enough representation of various skin tones.
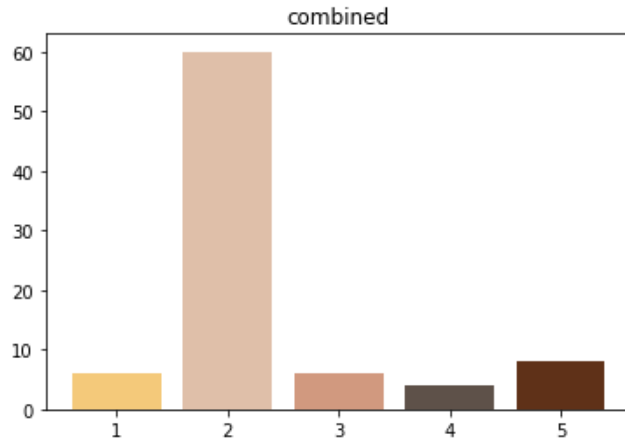
combined

This is data combined for both ads and articles for People's magazine, created by the author.

The limitations of the data is that out of a much larger industry and then there are much more media types to analyze. In future research, I might further analyze bias in facial recognition, also I would analyze representation in Hollywood movies and shows.

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Colorism in Your Favorite Articles By Annick Hansen

How likely are you to see yourself on the magazine cover if you are darker-skinned? The answer is probably "not likely". Unconscious colorism is apparent in so many ways in our society. Colorism is defined as prejudice or discrimination against individuals with a dark skin tone, typically among the same ethnic or racial group. Whether it be magazine representation, movie castings, or modeling, pale-skinned people always have more representation. This is due to stereotypes that date back to hundreds of years ago that a pale-skinned person is more attractive than a dark-skinned person.

In Chika Okara's Ted-Talk, "Confessions of a D Girl", she speaks about what she learned about her favorite movie's casting requirements. There are four tiers: A, B, C, and D. As she progressed from reading about the requirements for each type of girl, the lower the letter, the darker their skin and more prominent black features they had. Instances like these have a negative effect on our perception of beauty and mental health. Changes in the industry are being made, thus leading to a slow incline in the representation of dark-skinned people. We decided to zoom in on a specific magazine to see if any change has been made.

For our data analysis, we looked at Food&Travel Fall Magazine. In order to ensure that our data was not biased, we scrolled through the pages and took screenshots of the first people to show up. Another decision we made was to use any part of a person that is displayed, like a hand. The results of organizing our data into bar graphs and scatter plots visualized the representation of different skin colors in articles compared to advertisements.
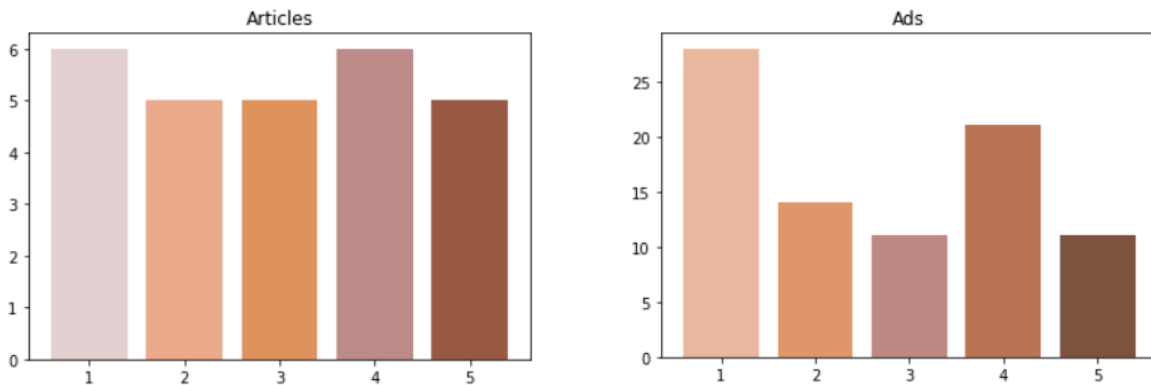
Bar graphs of different skin tone representation in Articles and Advertisements (Hansen)

As depicted by the graphs, there is a larger representation of pale-skinned people in the advertisements, but for articles, pale-skinned and brown-skinned people have close to the same amount of representation. For the advertisements, this is depicted by the above 25 bar graph of pale people compared to the below 15 bar graph. As for the articles, the first bar graph has 6 people while the last bar graph has 5. The numbers on the y axis represent the number of people of that skin color there are in the magazine. In addition to this, in both articles and advertisements, dark brown people have the least representation. It appears that the magazine has made more of an effort to have a diverse representation for the articles, but not the advertisements. One can assume that this is because their viewer is more likely to be more interested in their articles. The results of our data prove the effects of colorism and racial stereotypes.

Magazine Name	% in Advertisem	% in Articles
Pale	87.50%	38.46%
Light	12.50%	23.08%
Medium	0	38.46%
Brown	0	0
Dark Brown	0	0
Total	100.00%	100.00%

Google Sheets statistics of different skin tone representation in Articles and Advertisements (Hansen)

A challenge we faced while gathering data was that our results for the categorical and numerical data were different. For the numerical data, we imputed the images through Google Colaboratory, where it evaluated the skin tone. However, for the categorical data, I worked with my group to decide which person fit under which skin-tone category. Based on our perception, there is an overrepresentation of pale and light-skinned people in this magazine. For advertisements, pale and light-skinned people cover 100% of the people from the photos we chose. Similarly, in articles, pale and light-skinned people cover 61.54% of the people, while

those with medium skin tone only hold 38.46%. These statistics further emphasize how pale-skinned people are favored in the industry.

Though these statistics and visuals are alarming, it is possible to decrease the amount of colorism and racial favoring of white people in the marketing industry. Currently, brands like Nivea, Heineken, and Dove face criticism for indirectly sending the message that being of a lighter skin tone is superior. In addition to this, 77 percent of Nigerian women use skin-lightening products. This proves how important it is to make systemic changes in the industry. All of these products and mindsets have developed from years of enforcing the idea that white people are superior to darker-toned people. To make a change, industries must ensure that they have a wide diversity of skin tones that they represent. This will lead to positive change and remind people that everyone is equally beautiful.

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Disadvantageous Authority in Things Fall Apart By Kevin Chen

Throughout its billions of years in existence, planet Earth has long shuffled authority. From sedentary stromatolites to colossal dinosaurs, humans have only recently become the dominant species. This phenomenon is prominent in Things Fall Apart, a novel written by acclaimed author Chinua Achebe. Achebe's counter-narrative revolves around the European colonization of the African continent. The text introduces an accomplished protagonist, Okonkwo, comparing him to various inferior individuals. Okonkwo's achievements cement his status as a powerful figure. However, as the story advances, it becomes evident that his influence fills him with arrogance. Okonkwo's newfound conceit positions him in a variety of disturbing situations, notably his tragic suicide. As unearthed in Things Fall Apart, the illusion of authority yields consequential egotism.

Headlined by the protagonist, Okonkwo, the novel swiftly constructs a social hierarchy. Garnering fame from wrestling competitions among the Igbo tribe in Nigeria, Okonkwo is immediately presented as a decorated man. Gradually, it becomes evident that the granted authority creates his arrogant personality. For instance, he develops an ill temper due to his perception of superiority. His intimidating physicality ruins family dynamics, as "…whenever he was angry and could not get his words out quickly enough, he would use his fists. He had no patience with unsuccessful men. He had had no patience with his father" (Achebe PDF 3). Essentially, Okonkwo reckons that to retain his triumph, he must usurp others with his strength. His consistently reckless emotions show his horrid attitude, one full of arrogance and inconsideration for others.

In addition, Okonkwo's egotism leads to tragic results. When Ikemefuna, his adopted son, is selected for human sacrifice, Okonkwo is explicitly instructed to remain a bystander. However, for the sake of his pride, he murders Ikemefuna. After the initial yelp from Ikemefuna, "Okonkwo drew his machete and cut him down. He was afraid of being thought weak" (Achebe PDF 27). Achebe previously describes Okonkwo as affectionate of Ikemefuna yet unwilling to display his fondness. Okonkwo's illusion of superiority drives him to murder his beloved adopted son just to appear powerful. Worse, Ikemefuna lingers in his thoughts days after, and despite his emotionless appearance, it upsets Okonkwo tremendously. Okonkwo's egotism consequently corrodes his family, and the root of his egotism is his authority.

European colonization of the African continent is also explored in Things Fall Apart. With the addition of power, arrogance among European settlers develops throughout the span of Part Two. When Christian missionaries first arrive to Igboland, villagers are initially perplexed. The missionaries begin gently, preaching their Christian ideologies to the Igbo people with compromises. Mr. Brown, the leading missionary, is depicted as a kindred individual in encounters with Igbo natives. He "…learned a good deal about the religion of the clan and he came to the conclusion that a frontal attack on it would not succeed" (Achebe PDF 75). He reasons with the villagers, negotiating and supplying them with resources such as education and medical aid. This tranquil approach is deceptively powerful, converting a troubling number of residents to Christianity. Mr. Brown's compassion collects praise from Igbo tribes later as well. However, with the gain of power, the European settlers became egotistical. Due to declining health, Mr. Brown is replaced by Reverend James Smith. Mr. Smith establishes himself as a staunch character, attempting to gain more power from that created prior to his rule. However, he is quite stubborn even among the missionaries, condemning "… openly Mr. Brown's policy of compromise and accommodation" (Achebe PDF 76). Consequently, his arrogance results in rebellion from Umuofia. Villagers commit arson against the Christian church, infuriating the missionaries. As the European settlers gain power, they begin to consider themselves superior to the Africans in Igboland. The modest, feeble missionaries become voracious, egotistical colonists.

Egotism leads to devastating consequences. At the beginning of the novel, Achebe introduces Okonkwo as an egocentric protagonist fueled by his power and influence. However, by the conclusion, he begins to lose authority as Umuofia has evolved beyond him. Attempting to reclaim control, masqueraders destroy the Christian church, pleasing Okonkwo. Once they succeed, the Christian missionaries arrest Okonkwo and Umuofia's leaders, imprisoning and humiliating them. While detained, "the six men ate nothing throughout that day and the next. They were not even given any water to drink, and they could not go out to urinate or go into the bush when they were pressed. At night the messengers came in to taunt them and to knock their shaven heads together" (Achebe PDF 80). Upon discovering Umuofia's opposition to war with the missionaries, Okonkwo commits suicide. Umuofia refuses to touch his carcass afterward as it is deemed culturally intolerable. As one man explains, "'It is an abomination for a man to take his own life. It is an offense against the Earth, and a man who commits it will not be buried by

his clansmen. His body is evil, and only strangers may touch it"' (Achebe PDF 85). One of the most respectable individuals of Umuofia becomes a tarnished carcass forbidden from contact. Okonkwo's constant desire for authority is thus unfulfilled, leading to tremendous arrogance, catastrophic consequences – and a tragic outcome.

Chinua Achebe's Things Fall Apart is a tale regarding the arrogance of perceived power. Achebe paints a magnificent counter-narrative on the African perspective of European colonization. Although they may consider each other glaringly distinct, Okonkwo and the Christian missionaries collectively demonstrate authority leading one to view themselves as superior. Disturbing results emerge from the perception of superiority. Okonkwo may have suffered such consequences, but on Earth, one aspect remains constant: the cycle of power continues to flux.

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**Lack of Representation In Magazines, A Common Problem That Needs To Be Addressed**

By Lucien Graham

| Counts					Percents		
Magazine Name	**# in Articles**	**# in Ads**	**Total**		**Magazine Name**	**% Bin in Articles**	**% Bin in Ads**
Pale	75	46	121		Pale	45.7%	53.5%
Light	42	14	56		Light	25.6%	16.3%
Medium	25	12	37		Medium	15.2%	14.0%
Brown	12	11	23		Brown	7.3%	12.8%
Dark Brown	10	3	13		Dark Brown	6.1%	3.5%
Total	164	86	250		**Total**	100.0%	100.0%

Colorism is occurring in magazines regularly and it's not being addressed. Colorism is "prejudice or discrimination against individuals with a darker skin tone", as seen in my research on different magazines we can see just how common colorism is. Through my research on different magazines, specifically the peoples magazine we see the lack of representation for people with darker skin tones, in these magazines there was many more lighter skinned people having representation compared to darker skinned people.
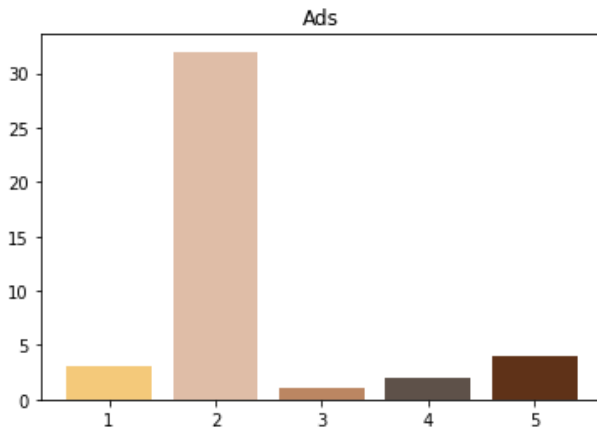
As we see in the photo above, the amount of lighter skinned people in Ads is much higher than the amount of dark skinned people. Theres around 35 people in the Ads with lighter skin tones compared to darker skin tones where there's only around 8. This shows us how little representation darker skinned people get in Ads compared to lighter skinned people.
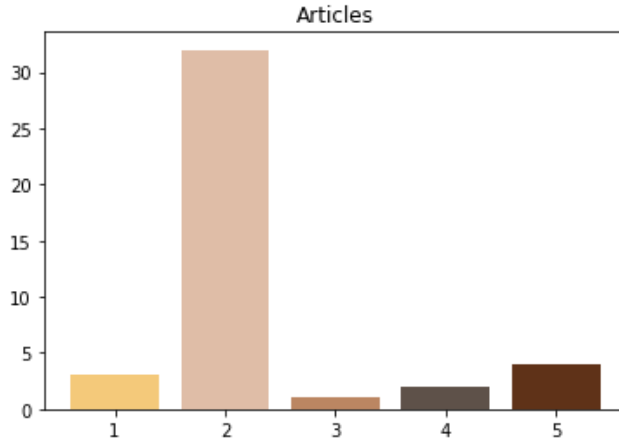
Articles

As we see in the photo above, the amount of lighter skinned people in Articles is much higher than the amount of dark skinned people. Theres around 36 people in the Articles with lighter skin tones compared to darker skin tones where there's only around 8. This shows us how little representation darker skinned people get in Articles compared to lighter skinned people because of the great difference in lighter skinned people in Articles compared to darker skinned people.

combined
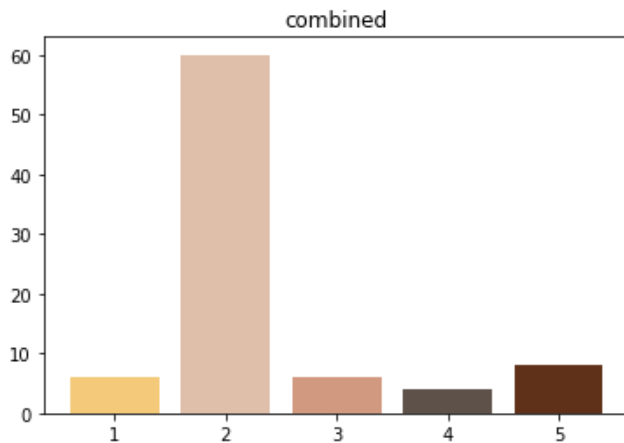
As we see in the photo above, the amount of lighter skinned people in both Articles and Ads is much higher than the amount of dark skinned people. Theres around 65 people in the Articles and Ads with lighter skin tones compared to darker skin tones where there's only around 15. This shows us how little representation darker skinned people get in Articles and Ads/Magazines compared to lighter skinned people because of the great difference in lighter skinned people in Magazines compared to darker skinned people.

Although my research is very thorough I only specifically researched one magazine so my results might've come out differently if I analyzed more magazines. In the future with my research I will research a wider variety of magazines and compare the results from those to the ones from the magazines I analyzed for this assignment.

Video Games and A Decades Long Social Issue, How Do They Connect? By Ishaan Horwith

Do you play video games? Have you ever noticed the different skin tones that come with character to character? In this magazine I will be analyzing and revealing the different skin tones, not race or nationality, within the video game community. To give you a better understanding about skin tones in the media, I have to explain the concept of colorism.

Colorism is defined as discrimination against people based on their specific skin tone and color, so for example within the black community lighter skinned people were historically treated better than darker skinned people, leading to a historical conflict against lighter skinned people and darker skinned people, even though they are still both African American. Historically this is also present in the media, as the demand for black models rose, companies would increasingly choose light black models rather than dark black models. Within this article me and a group of my colleagues analyzed skin tone representation between various advertisements and articles within the official PlayStation Magazine and we looked at how many different skin tones came up. Our gradient for categorizing skin tone was broken up into six categories, pale (lightest), light, golden, tan, brown, and deep (darkest).

Created by Ishaan Horwith and others within Google Slides

So, what were the findings? Was there an observation between different skin tones? Was there a difference between skin tone representation between ads and articles in magazines? Yes, our observations across thirty four ads and articles in the PlayStation magazine we recorded that pale people made up 42.9% of ads and 40% of articles, light people made up 4% of ads and 15% of articles, golden people made up 28.6% of ads and 10% of articles, tan people made up 0.2% of

ads and 10% of articles, brown people made up 0% of ads and 5% of articles, and deep people made up 0% of ads and 20% of articles.

Skin tones	Percent in ads	Percent in articles
Pale	42.90%	40%
Light	4%	15%
Golden	28.60%	10%
Tan	0.20%	10%
Brown	0%	5%
Deep	0%	20%
Total	100%	100%

Data from the Official PlayStation Magazine, collected by Ishaan Horwith and others within Google Sheets

There is a clear pattern within both ads and articles. The skin tones can be split into two very broad categories, fair (pale, light and golden) and dark (tan, brown and deep), and by analyzing both articles somethings come up right off the bat. Most obviously is that pale people are the bulk majority for both ads and articles, whereas deep and brown skin barely comes up, with dark people having barely any representation in ads, only 0.2% in total. Articles are a little bit more diverse, with fair people making up 65% of the articles, and dark people only making up 35%. This means that in total there is little to no representation of these people within the data, also as the darker it gets the less and less they are typically portrayed. This is conclusive proof and evidence that there is colorism that exists within the gaming community, or more specifically within the PlayStation gaming community.

So, the trend is obvious, dark people are underrepresented and sometimes not represented at all in both ads and articles, but what does this visually look like? Numbers on a graph are helpful, but what if I want to actually visualize this?
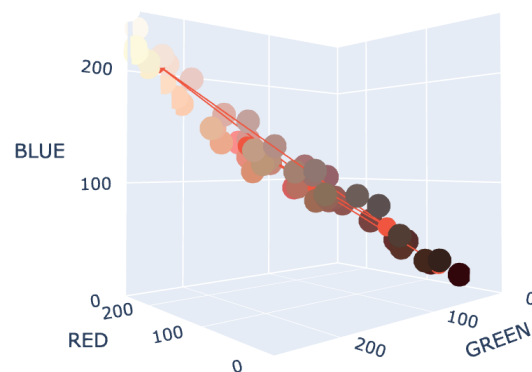
We can visualize the data through a scatter plot. A scatter plot scatters multiple pieces of data on one plot, for this experiment, the data is organized by the RGB, Red-Green-Blue, spectrum. It plots these data points on a 3-D cube that is broken up into three main quadrants and thus each data representation point is plotted in relation to their RGB. This is a very hard concept to explain and understand, however take for example if I provide this program with a purely green point, it will plot it in the bottom right corner where it says "GREEN" because its RGB organization is Red:0 Blue:0 Green:100. This scatterplot tells us that the most upward and present points are the ones at the top which are the light ones, and the least present are the dark ones, the ones at the bottom.

So, we have concluded two things, ads within the playstation magazine show significantly less dark people compared to articles in the playstation magazine, however the overall trend within the entire magazine was that dark people are underrepresented, as sometimes they have little to no representation within ads or articles, whereas pale and light skin tones always have the most. Colorism most definitely exists, it is evident through the choices that the game and ad developers are choosing to cast and create characters. But why? My best speculation is that for some reason their games revolve around western themes like the wild west or the future, leading to fairer skin tones being more present.

However there are some limitations and some possible misconceptions. When we talk about skin tone, a lot of the time people will just group all dark people into Asian, Latinx and Black but at the same time a lot of Asians are very light, even pale, meaning that it doesn't necessarily mean that the game developers are white supremacists, they might actually be picking more asians and pale people/albino rather than only white people. One of the other biases that my colleagues and I thought could be possible was the impact of the lighting on the skin tone of the people within both ads and articles. For example, if the lighting is set above them and is dim, then the person will appear darker. If the lighting is brighter, then their skin tone will appear lighter because of the glare and saturation on their skin.

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    Feb. 2022.

Colorism Through Out Magazines By Sofia Fernandez Germani

In our vast technology based society it's easy to miss out on little things, little things that might even matter to us may be clouded by the complexities of living in the modern world. When you look at magazines, have you ever thought about skin tone representation and colorism? Well I have done a deep dive into magazines and their skin tone representation. While collecting data I discovered the magazines do have a variety of skin tones but ads tend to have more light skinned models while articles tend to be a bit more even.

Our research was looking at skin tone representation and colorism in the media, But what is colorism? Colorism is the discrimination of people who have darker skin tones, typically among people of the same race or ethinc group. Colorism as seen in the media is favoring lighter skin models and people instead of darker skin tones. When trying to attract an audience companies tend to use light skinned models, this is due to colorism and how colorism plays a role in representation in the media and society in general. Colorism dates all the way back to slavery and how lighter skined slaves were favorud for house work, this has snowballed into modern day colroism.
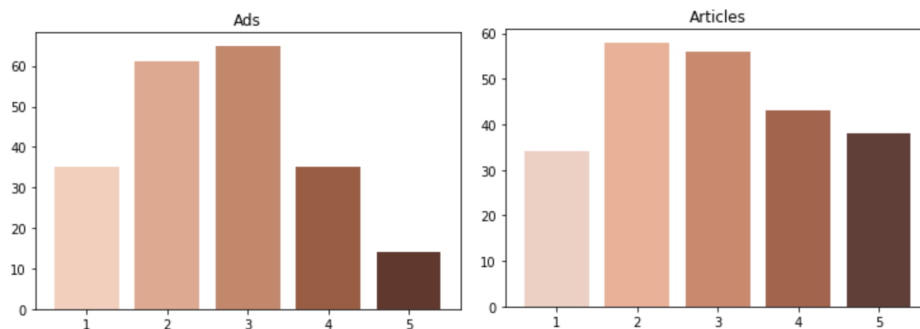
Magazine data from 6 magazines created by class

To understand skin tone representation in the media we looked at magazines, all kinds of magazines but i looked specifically at Vogue fashion magazine. Looking at magazines is a great way to look at skin tone respiration since magazines have lots of ads and articles, this allows us to compare data from ads and articles. While looking at ads and acratical we used different methods to analyze data, categorical and numerical, this is great since it's easier to understand data when there are multiple options to look at. As a whole class our data shows how light

skinned models are preferred for ads while articles tend to be a bit more evened out. As seen in the graph above, ads have lighter skin tones and very few darker skin tones. This is probably because of how companies prefer lighter skinned models to advertise products because they might have more success selling products. If you look at the articles graph you can tell that the data is more equally spread, still favoring lighter skin tones. The reason for having darker skin tones in articles instead of ads is probably because companies are trying to be representative while still trying to sell their products.
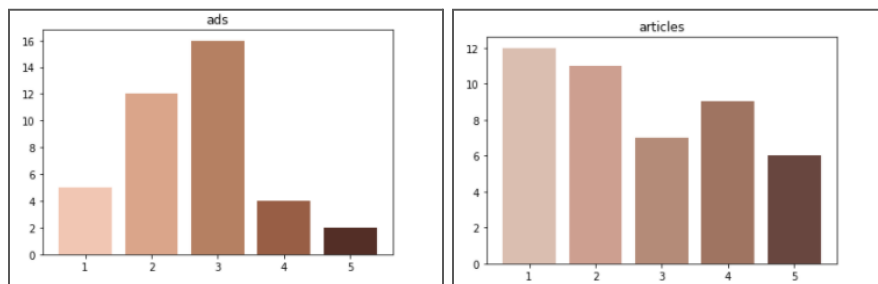
Data from vogue magazine created by author

The data shown previously is class data, which has many different types of magazines in one data set. To see how skin tone representation looks in individual magazines, we looked at Vogue magazine. Our data looked very similar to the class data. Our graph for ads (shown above) is similar to the ads graph of our whole class data. Along with our articles graph, which also looks similar to the class graph for articles, we can confidently say that there is major variation between skin tone represented in ads versus in articles.

tones	# in articles	# in ads	total
pale	2	1	3
light	2	5	7
golden	3	2	5
tan	2	0	2
brown	1	3	4
deep	4	1	5
Total:	14	12	26
	articles	ads	Total
total pale	14.29%	8.33%	11.54%
total light	14.29%	41.67%	26.92%
total gold	21.43%	16.67%	19.23%
total tan	14.29%	0.00%	7.69%
total brow	7.14%	25.00%	15.38%
total deep	28.57%	8.33%	19.23%
Total	100.00%	100.00%	100.00%

Data from vogue magazine created by author

While gathering data we used 2 different approaches, numerical, shown in the bar graphs, and categorical. Categorical data can help you get more of a quantitative sense of what the data looks like. The table above shows our categorical data. While analyzing our data we noticed that In the Vogue magazine there is more dark skin tone representation in articles rather than in ads, this is also shown in our bar graphs. The overall percentage of deep skin tones in articles was 28.57% while for ads it was 8.33%. Overall vogue had fairly representative skin tone ranges but through our data we can infer fashion companies prefer lighter skinned models than darker skinned models to advertise products.

Since collecting data can be challenging, especially since we collected data on skin tones there are limitations to our data. The way we collected our data wasn't the most impartial, we chose where to take samples of skin tones, this all may skew our data. External variables like lighting, placement and background all may affect the skin tone and sometimes change the skin tone sample. Although we did try to make our data and analysis as impartial as possible there are still limitations to keep in mind when looking at our data. To truly know about all of the skin tone representation in the media we would need to look at other media sources outside of magazines and look into specific companies.

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Are Your Latest Magazines Really Selling Products To You By Sakshi Tiwari

      The purpose of magazines is to sell products to the average person, however the people they depict are only a small percentage of the average person. The standard of beauty in magazines is inherently attached to the notion that light skin is desirable, consequently publishers value creating a personalized space directed to light skin and even if non white models are casted people of color who are casted are more likely to be lighter skinned. Colorism is the discrimnation and prejudice against people of darker skin tones enforced through the value put on light skin through beauty standards. A majority of colorism is not only evident in the stigma and practices pushed on darker skin to be lighter, but the media exemplifies the ideal towards light skin by predominantly representing it in the variety of their articles and advertisements.

| Counts					Percents		
AGGREGATE	# in Articles	# in Ads	Total		AGGREGATE	% Bin in Articles	% Bin in Ads
Light-Pale	54	35	89		Light-Pale	48.2%	36.5%
Light-Medium	25	34	59		Light-Medium	22.3%	35.4%
Medium	13	13	26		Medium	11.6%	13.5%
Brown	11	7	18		Brown	9.8%	7.3%
Deep	9	7	16		Deep	8.0%	7.3%
Total	112	96	208		Total	100.0%	100.0%

The Two Way Tables For Combined Data for all Magazines (By Author)

      Throughout 6 different magazines the collective data percentages expose how prominent Colorism is in the media. Through, a scale which ranged from the skin tones Light-Pale, Light-Medium, Medium, Brown and Deep. Light-Pale skin tones made up 48.2% of articles; meanwhile, Deep skin tones only made up 8% of articles. Additionally, when observing the 2 way table it is notable that the rates of each skin tone decrease as you move from lighter to darker skin tones.

| Counts					Percents		
UK BBC History Octob	# in Articles	# in Ads	Total		Magazine Name	% Bin in Articles	% Bin in Ads
Light-Pale	5	3	8		Light-Pale	33.33%	20%
Light-Medium	4	4	8		Light-Medium	26.67%	26.67%
Medium		3	3		Medium	0%	20%
Brown	3	1	4		Brown	20%	6.67%
Deep	3	4	7		Deep	20%	26.67%
Total	15	15	30		Total	100%	100.00%

The UK BBC History Article Two Way Tables (By Author)

The article with the most representation of deep skin tones is the History BBC UK article. Which was made up of 26.67% of Deep skin tones equal to the amount of Light-Medium skin tones within the article. Rightfully, an article focused on the history of people all around the world should include photos from all backgrounds. Although, the same can be said for all articles. Since, people of all skin tones should be able to view themselves in the product or topic that is being discussed as they are all involved. Compared to the History magazine Vogue fails to include deep skin tones only covering 6% of the article, as a result, 26% of Light-Medium skin tones are represented instead.
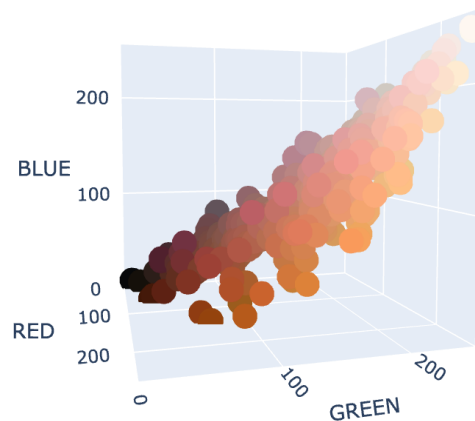
Combined Data Cluster for all 6 Magazines (By Author)

Similarly, the combined cluster diagram of all skin tones has less than a 3rd of dark skin tones making up the dot on the axis. However, as you move up the graph almost 2 thirds of the cluster lean towards lighter/paler skin tones. Overall, darker skin tones are often overlooked and under-represented through articles of magazines as many companies all share few percentages of darker skin tones but pass it off as enough diversity.
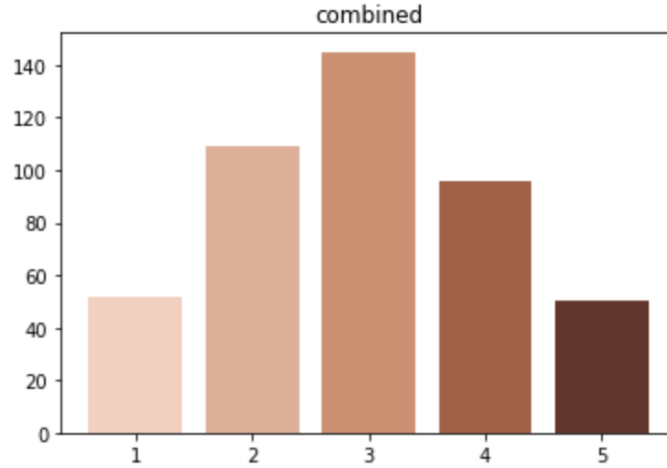
Combined Bar Graph Data for all 6 Magazines (By Author)

Not only are skin tones that range from Medium to Deep underrepresented in articles, but they are significantly overlooked in advertisements further pushing value on whiteness in areas of business and profit. Likewise, Brown and Deep skin tones decreased to 7.3% in advertisements; although, both Light-Medium to 35.4%, and Medium to 13.5% increased in ads from articles. Often, including slightly darker skin tones companies are able to paint themselves as doing their "social responsibility" or what the public wants within an ethical company. By incorporating a variety of skin tones in their advertisements; despite, the skin tones still lying on the lighter part of the spectrum. These advertisements will also allow them to present as more diverse than the media they are uploading themselves. For Instance, in the Vogue cluster, Medium skin tones only contain a smaller space of the dots, while in advertisements Medium skin tones almost make up the majority. Through this, Vogue is presenting themselves as largely supporting darker skin tones in their work to their viewers.

skin tone	#ofads	#ofarticles	total
light pale	1	3	4
light medium	1	0	1
medium	0	2	2
brown	2	6	8
deep	1	3	4
total	5	15	20

However, this can differentiate based on the type of the article being read. Since in some cases articles might have specific tones more widely represented than in other careers or products compared to their magazines. Sports Illustrated represented brown skin tones around 4 times more in articles than in ads. The lack of brown skin tones being highlighted in their advertisements further only put brown and deep skin tones in placement of athletic and sport related positions, lacking any other darker skin tones within different areas like business or healthcare in their ads with 2-4% representation.

Referencing the BBC UK History article the culture has a somewhat equal division of all skin tones. Due to this being an article directed for kids to learn about history it is essential that they see all people portrayed accurately. Even with hobbies or a professional career the majority of the British Chess Magazine only includes Light to Medium skin tones and Light to pale in 100% of the advertisements. It positions white skin at the highest level of Chess players making darker skin tones narrating as an insignificant part of the game. Without media including all skin tones equal in these magazines, generations of people are either feeling welcomed into specific jobs, but they're also not being educated on their importance in these positions, part of the reasons which creates more and more white dominated fields.

Repeated throughout history many practices have put whiteness above darker skin tones as They aimed to encourage large groups of people to do what they can to become lighter. Such practices ranged from the Paper Bag Test which occurred in the 19th and 20th century telling predominantly Black Children that they should not be darker than a paper bag. If they failed to reach these "standards" they were denied entrance into places for hiring. Now these forms of discrimnation are acted on in similar ways through the successful skin whitening brands in business today. Which is why it is so significant for magazines to oppose the stigmatization of darker skin and increase diversity of all skin tones equally in their magazines.

The collected data proves that in more ways than one that Colorism is still an issue that the public has to address and recognize. Although, it is important to note that not all pieces of this data were addressed the same as one another. Due to different orders of collecting the data, some may have gone in order while others randomly picked. These biases may have caused the full article's representation to be slightly inaccurate. Along with these magazines capturing

media from different countries limits how Colorism may be for all countries. Since, data from America or the UK is not credible to criticize colorism in other countries. To improve this data the magazines should have a constant in country and order to ensure that the magazines are under the same situations. Similarly, ads and articles differentiate as one mainly prioritizes selling products and the other is based on informing the public. Therefore, the intentions of the magazines change which needs to be analyzed differently from the perspective of the publishers. Granted this data successfully captured how Colorism in magazines may seem noticeable at first glance but the statistics prove the unequal distribution of darker skin tones to lighter skin tones in magazines.

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