



Muted Voices and Resilience: Analyzing the Application of Muted Group Theory in *Hidden Figures*

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Abstract

This study examines the representation of marginalized voices through the lens of Muted Group Theory in the film *Hidden Figures*. The background of this research is rooted in the persistent issue of gender and racial inequality, where women particularly African American women experience systemic barriers that limit their ability to express themselves within dominant social structures. The objective of this study is to analyze how the dynamics of silencing and resistance are portrayed through language, interaction, and power relations in the film. This research employed a qualitative approach using critical discourse analysis to examine selected scenes and dialogues. Data were collected from six key scenes involving the main characters, and analyzed by categorizing expressions of dominance into four mechanisms: ridicule, ritual, control, and harassment. The findings reveal that the film vividly illustrates how institutional and structural discrimination contributes to the silencing of marginalized groups. Female characters are often excluded, underestimated, and constrained by dominant male authority. However, the analysis also highlights forms of resistance, where the characters challenge these barriers through persistence, competence, and strategic communication. In conclusion, *Hidden Figures* effectively demonstrates the mechanisms of Muted Group Theory while emphasizing the resilience of marginalized women. The study underscores the importance of inclusive communication and structural change to amplify underrepresented voices in both historical and contemporary contexts.

INTRODUCTION

Marginal groups, as defined by Griffin, include women, people of color, economically disadvantaged individuals, those with disabilities, the LGBTQ community, the very old and very young, as well as religious minorities (Pincus, 2000; Sarrasin et al., 2012; West & Turner, 2010). These groups perceive the world differently because they exist as "outsiders" within a dominant culture, which allows them to understand truths more profoundly (Griffin et al., 2019). Kramarae's Muted Group Theory posits that language is often constructed in a way that makes it difficult for women to be seen and heard, as men predominantly create language. This dynamic complicates women's ability to express their thoughts publicly.

When women begin to assert their voices, men may feel their societal power threatened (Griffin et al., 2019).

The film *Hidden Figures*, directed by Theodore Melfi and released in 2016, is based on the true story of three African American women Katherine Johnson, Dorothy Vaughan, and Mary Jackson who played crucial roles at NASA (National Aeronautics and Space Administration) during the early years of the space race (Li et al., 2021; Samari et al., 2024). Set against the backdrop of the 1960s, a time marked by racial segregation and gender discrimination, the narrative highlights the intersectionality of race and gender as these women navigate a hostile work environment. Despite their exceptional mathematical skills and contributions to significant missions, they face systemic barriers that hinder their recognition and advancement within a predominantly white and male institution (Shetterly, 2016). The film not only sheds light on their professional struggles but also serves as a broader commentary on the societal norms that marginalized women and people of color in STEM fields. In addition to highlighting their extraordinary aptitude for mathematics, the movie also discusses the structural obstacles they encountered, such as restricted educational and career opportunities because of their gender and color (Cariello et al., 2024; Fox & Stallworth, 2005; Zheng & Walsham, 2021).

Fershtman, Gneezy, and Verboven, (2005) define discrimination as the “differential treatment of people depending on their group affiliation” (p. 371). Similarly, (Bodenhausen & Richeson, 2010) describe discrimination as a situation where individuals are treated differently due to their association with specific groups. Discrimination, therefore, can be understood as the conscious or unconscious differential treatment of individuals based on personal attributes that categorize them into distinct groups, often with the intent of limiting the rights of minority parties.

Pincus, (2000) categorizes discrimination into three types: individual, institutional, and structural. Individual discrimination pertains to behaviors by individuals, as members of a particular race or gender group, that negatively impact members of another race or gender group. For instance, a White employer rejecting all Black job applicants exemplifies individual discrimination (Niu & Rosenthal, 2009). Institutional discrimination, on the other hand, arises from policies created and implemented by dominant racial or gender institutions. These policies and the actions of those managing such institutions often produce harmful effects on marginalized groups. An example is the Jim Crow laws in the American South, which institutionalized segregation in all aspects of life between African Americans and Whites.

Structural discrimination refers to the systemic inequities embedded in policies and practices established by dominant racial or gender groups. These policies, while often neutral in intention, disproportionately harm marginalized groups. For example, loan policies applied uniformly across all races might still result in Whites being more likely to secure loans compared to African Americans and Hispanics. This disparity highlights how structural discrimination often arises not only from institutional policies but also from the biases of individuals who implement them. Discrimination can stem from a variety of personal attributes, including race, gender, ethnicity, and social class (Fershtman et al., 2005).

Racial discrimination, often termed racism, is defined by Pincus (2000) as a system of beliefs, policies, and practices designed to maintain white superiority. (Lawrence & Keleher,

2004) expand on this concept, using the term White supremacy to describe the historical and institutional system of domination by Whites over people of color. This system, rooted in a legacy of mistreatment, seeks to preserve the wealth, control, and privileges of White individuals. Racism, therefore, operates as a structural framework of beliefs and practices aimed at sustaining inequality and the subjugation of racial minorities.

Gender-based discrimination, commonly referred to as sexism, represents another prevalent form of structural inequity. (Geschwender, 1978; Glick & Fiske, 1997) define sexism as overt hostility or antagonism toward women. (Francis, 1976; Frauenberger, 2012) adds that sexism is a political construct denoting the unfair treatment of women and the restriction of their development across various social domains. Feminist movements have long contested sexism, advocating for gender equity. Consequently, sexism can be understood as discrimination rooted in gender bias, which manifests as limitations on women's social, professional, and personal growth.

The development of Muted Group Theory by Edwin and Shirley Ardener was later expanded by Cheri Kramarae, who focused on gender, language, communication, technology, and education (Gordon, 1964, 1991; Hayes, 2007). Kramarae argues that language is a male construct that does not equally represent all speakers; instead, it reflects the contributions of the dominant group—men. Consequently, women and other subordinate groups find it more challenging to articulate their desires and experiences due to the norms established by this dominant group. According to Kramarae and other feminist theories, women's words are often undervalued in society, leading to a situation where they are increasingly silenced as they attempt to address these inequalities (Griffin et al., 2019, p. 409).

Critiques of Muted Group Theory highlight its potential overemphasis on male dominance while neglecting the complexities of power dynamics. Some argue that the theory does not fully account for how new technologies can create opportunities for women's voices while simultaneously reinforcing existing power imbalances (Kramarae, 1981). The implications of this theory suggest that despite perceptions of gender-neutrality in spaces like the internet and social media, women often encounter misogynistic responses that aim to silence them. For instance, research indicates that increased female engagement in social media in Nigeria has led to backlash aimed at curtailing their presence online (Alichie, 2022). Kramarae advocates for fundamental changes in how language and communication are structured in society to include women's experiences and perspectives more accurately (Kramarae et al., 1985).

RESEARCH METHOD

This paper examined the application of Muted Group Theory within the movie directed by Theodore Melfi, 'Hidden Figures', through a critical discourse analysis approach. Critical discourse analysis explores how social power, dominance, and inequality are expressed and perpetuated in language. This methodology is chosen because it aims to "understand, expose, and ultimately resist social inequality", aligning with the objective of muted group theory (Schiffrin et al., 2008). Muted groups are those who "exist under the shadow of dominant group", necessitating their understanding and navigation within the framework while conforming to its definition (Spender, 1980).

The study will focus on dialogue at the microlevel of social interaction, even though the implications of muted groups can extend to society at large. The researcher will analyze the movie to categorize linguistic data and assess the presence of muted group theory elements within its discourse. *Hidden Figures* was selected for its representation of double majority women as a muted group in the 1960s.

After reviewing the literature on muted group theory, it became evident that theorists believe that traits associated with dominance create obstacles that prevent everyone in society from expressing themselves equally. Consequently, this study will analyze the film *Hidden Figures* for signs of dominance. These signs will be grouped into one or more of the following categories: compliance, rebellion, withdrawal, or manipulation (Kramarae, 1981). In this context, compliance refers to going along with someone else's wishes, rebellion means resisting or opposing those wishes, withdrawal involves stepping back or distracting oneself from a person, and manipulation is about influencing or controlling someone else's action.

The researchers will carefully examine specific passages from the film twice: first for phrases that indicate dominance and then for individual words that do the same. Any words or phrases that reflect one of these dominance traits will be recorded, and the results will be calculated to show what percentage of each scene consists of dominant language. If a word or phrase can represent more than one trait, it will be counted for each applicable category during the analysis.

The researcher read six scenes from *Hidden Figures* and analyzed them for language that could be classified as dominant, an important aspect of muted group theory. The scenes were selected based on the researcher's experience in communication and English studies, preliminary research on the film, and consideration of academic research on various aspects of the text. Several scenes are well-known among scholars who have studied the text.

According to the literature, the overall research question of this study is grounded in the framework of Muted Group Theory which posits that societal structures can silenced marginalized groups, limiting their ability to communicate and express themselves fully. In *Hidden Figures*, the narratives centered in the lives of three African-American women, Katherine Johnson, Dorothy Vaughan, and Marry Jackson, who played crucial roles at NASA in the 1960s where America, especially Virginia, is still a segregated region.

The movie gives M.G.T. a rich background by showing how women lived in workplaces that were not only racially separated but also controlled by male authority. By examining the interactions, discourses, and organizational challenges they faced, scholars can examine how their voices were often marginalized in the larger narrative of American history. These questions aim to uncover the mechanisms of dominance and resistance evident in the film, contributing to a deeper understanding of how race and gender intersect in the dynamics of communication. Therefore, the research question of this paper is "How does *Hidden Figures* illustrate the dynamics of muted group theory through the experiences of African American women in a predominantly white male workplace?"

RESULTS AND DISCUSSION

The scenes chosen will focus on the three main characters: Katherine Johnson, Dorothy Vaughan, and Marjorie Jackson. A variety of other supporting characters come into play over the course of the film, including Al Harrison, the supervisor of Katherine in the Space Task Group.

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Katherine's First Day at NASA: Katherine is confronted with the segregation of bathrooms, highlighting systemic racism that marginalizes her presence.

1. Representation of Systemic Barriers: Katherine's encounter with segregated bathrooms underscores the institutionalized racism of the era, designed to marginalize and mute her presence in professional spaces. This segregation not only isolates Katherine physically but symbolizes the broader societal attempt to silence her contributions.
2. Interactive Dynamics: The forced detours to access "colored" facilities highlight a spatial metaphor for the systemic obstacles imposed on minority voices, requiring greater effort and resilience for inclusion.
3. Compositional Elements: The scene contrasts Katherine's professional attire with the demeaning nature of the situation, emphasizing the dissonance between her capabilities and the constraints imposed by segregation.

Meeting with Male Engineers: Katherine finds it difficult to be heard at a meeting, and her male coworkers first discount her knowledge.

1. Representation of Gender Dynamics: Katherine's expertise is dismissed, reflecting the pervasive gender bias in professional settings. Her male colleagues' reluctance to acknowledge her input demonstrates the muting of women's voices in male-dominated fields.
2. Interactive Dynamics: The dismissive attitudes of the engineers create a hostile environment, with Katherine's attempts to contribute symbolizing resistance to systemic exclusion.
3. Compositional Elements: The positioning of Katherine at the periphery of the meeting room visually reinforces her marginalized status, while her eventual interjection signifies her determination to reclaim her voice.

The Bathroom Scenes: Katherine runs across campus to use the "colored" bathroom, symbolizing the racial segregation that attempts to silence her contributions.

1. Representation of Racial Segregation: Katherine's daily run across the campus to the "colored" bathroom serves as a recurring visual motif of systemic racism. It represents the physical and symbolic lengths required to navigate oppressive structures.
2. Interactive Dynamics: The contrast between her isolation during these moments and her later integration into the team symbolizes the gradual dismantling of barriers through perseverance.

3. **Compositional Elements:** The extended focus on her running juxtaposed with the stagnation of the system highlights the energy expended by marginalized individuals in combating structural inequalities.

Mary's Request to attend engineering school: Mary Jackson confronts legal barriers when she seeks to enroll in an all-white school to further her engineering career.

1. **Representation of Legal Barriers:** Mary's confrontation with the all-white school policy demonstrates the explicit exclusionary practices embedded in law, serving as a stark example of systemic muting of aspirations based on race and gender.
2. **Interactive Dynamics:** Her legal appeal reflects an active challenge to institutional norms, reframing the narrative of muting into one of vocal advocacy.
3. **Compositional Elements:** The court setting, with Mary's lone figure against the establishment, visually dramatizes the imbalance of power and the courage required to confront it.

Dorothy's Leadership Struggle: Dorothy Vaughan advocates for herself and her team to be recognized as programmers, facing resistance from management.

1. **Representation of Workplace Inequality:** Dorothy's struggle for recognition as a programmer highlights the systemic undervaluation of Black women's labor and leadership in technical fields.
2. **Interactive Dynamics:** Dorothy's persistent advocacy for her team embodies collective resistance, challenging the muting of an entire group's contributions.
3. **Compositional Elements:** The depiction of Dorothy mentoring her team underscores her role as a leader despite the systemic denial of her title, visually asserting her authority.

Katherine's Presentation: Katherine finally asserts her expertise during a presentation, marking a significant moment of breaking through the barriers of muting.

1. **Representation of Professional Breakthrough:** Katherine's presentation symbolizes her triumph over systemic barriers. Her acceptance by colleagues signifies a shift from muting to amplification of her voice within the organization.
2. **Interactive Dynamics:** Her confident delivery and acknowledgment by peers represent a pivotal moment of reclaiming agency in a historically exclusionary environment.
3. **Compositional Elements:** The focus on Katherine at the center of attention with colleagues listening intently visually encapsulates the breaking of barriers, both professional and social.

Discussion of this analysis is based on four primary mechanisms of silencing within the framework of Muted Group Theory which are ridicule, ritual, control, and harassment.

The first primary approach of silencing is mockery, which is demonstrated in the moment where Katherine met with other male coworkers and their male colleagues rejected her participation, that shown through this dialogue:

Stafford: 'That's the job, Katherine. You asked for the assignment. Calculate with what you have. Or we'll find someone who can.'

This belittling remark undermines her expertise and reflects a culture that ridicules women's opinions, reinforcing their muted status in a male-dominated workplace. This speaks to a broader societal tendency to marginalize women's perspectives, especially women of

color, and exclude valuable perspectives that can make significant contributions to career advancement.

The ritual aspect is determined by cultural practices that place women in subordinate roles. In *Hidden Figures*, NASA's work rituals reinforce a gender hierarchy in which male engineers dominate discussions and decision-making processes. For example, Catherine's initial exclusion from important meetings shows how traditional workplace norms marginalize women, denying them their potential as leaders and innovators, and effectively relegating them to supporting roles. This was shown from the dialogue:

Stafford: "We've been through this, Katherine. It's not possible. There's no protocol for women attending."

Another key element of MGT, control, is revealed in the film through social dynamics governed by men. Male figures at NASA have disproportionate power over behavioral norms and decisions. Their struggle to assert their power highlights how institutional structures perpetuate male dominance, often marginalizing women's contributions and reinforcing women's invisible status within organizations. Another point is in the movie where colored people especially women are not given any authority although they already are doing jobs of the authorities. This is shown through the dialogue:

Dorothy: "My application for supervisor, ma'am. Was wondering if they're still considering me for that position".

Vivian Mitchell: "Yes. Well, the official word is: no. They're not assignin' a permanent supervisor to the Colored Group."

Finally, harassment plays a major role in creating an environment where women feel unsafe and unsupported. The real sexual harassment may be in the shadows, but the threat of violence and discrimination is in the characters. For example, when Mary Jackson faced legal barriers to enrolling in a whites-only trade school, she faced not only institutional resistance but also a strong desire to continue her education and professional development. She also faced social bullying that held her back. This climate of fear stifles women's ambitions and limits their participation in social and professional life. This was shown through this dialogue:

The Judge: "Hampton High School is a white school, Mrs. Jackson."

Mary: "Yes, your Honor. I'm aware of that."

The Judge: "Virginia is still a segregated state. Regardless of what the Federal Government says or the Supreme Court says. Our law is the law"

CONCLUSION

This study demonstrates that *Hidden Figures* serves as a compelling cinematic lens through which the mechanisms of Muted Group Theory can be critically examined. Through the analysis of six key scenes involving Katherine Johnson, Dorothy Vaughan, and Mary Jackson, four primary mechanisms of silencing ridicule, ritual, control, and harassment are clearly evident in the film's portrayal of a racially segregated and male-dominated NASA workplace. Katherine's belittled contributions and exclusion from meetings reflect both ridicule and ritual; Dorothy's denied promotion illustrates institutional control; and Mary's confrontation with legal barriers exposes the harassment embedded in structural racism. Yet, equally significant is the resilience these women demonstrate through persistence, strategic

communication, and collective advocacy as acts of resistance against systemic muting. Their stories reaffirm Kramarae's argument that dominant structures must be fundamentally reformed to accommodate marginalized voices, a concern that remains relevant in contemporary workplaces, digital spaces, and social institutions. For future research, scholars may consider expanding the application of Muted Group Theory beyond film analysis to examine how African American women and other intersectional marginalized groups navigate silencing in present-day STEM environments, particularly through the lens of social media and digital communication platforms, where new forms of visibility and suppression continue to emerge simultaneously.

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