Youth Perceptions of Algorithmic Gender Bias and Ideas for Content-Based Mitigation: A Pilot Study

Angel George

Honors Graduate, B.A.

American University of Iraq

Sbey Research

July 2025

Table of Contents

Abstract

This qualitative pilot study explores how a small sample of students from the American University of Iraq, Sulaimaniyah, perceive algorithmic gender bias on social media and envision culturally grounded strategies for its mitigation. Drawing on semi-structured interviews with five students from diverse academic disciplines, the study identifies key themes such as unequal representation, the influence of religious and cultural norms, skepticism and cautious optimism toward digital reporting tools, and the need for localized content to promote gender equity. Findings suggest that algorithmic systems often reproduce traditional gender hierarchies, yet youth are critically aware of these dynamics and offer pragmatic, context-sensitive solutions. While the small sample limits generalizability, the study contributes to the underexplored area of youth perspectives in non-Western contexts and highlights the importance of inclusive platform design and policy development. Future research should expand the sample and examine the practical implementation of proposed mitigation strategies across diverse cultural settings.

Keywords: Algorithmic gender bias, social media, Kurdistan, Sulaimaniyah, qualitative research

1.Introduction

Social media platforms have become central to how young people consume information, form identities, and engage with the world. These platforms rely on algorithms to curate content, often in ways that reflect and reinforce existing societal biases. One emerging concern is algorithmic gender bias—the unequal representation and treatment of genders in the content users are exposed to. While not always intentional, such biases can limit visibility for women, reinforce traditional gender roles, and marginalize feminist or equality-focused content.

In regions like the Kurdistan Region of Iraq (KRI), where gender inequality is already embedded in social and institutional structures, these effects are especially concerning. Imported technologies, often designed in Western contexts, are rarely adapted to local cultural or linguistic realities. Despite growing awareness of these issues globally, youth perspectives—particularly in developing contexts—remain underrepresented in both academic and policy discussions. Existing studies tend to focus on technical causes or solutions, with little input from those most affected by biased content systems.

This study addresses that gap by exploring how university students in the Kurdistan Region perceive algorithmic gender bias on social media and what ideas they have for its mitigation. As a small pilot study, it draws on a purposive sample of students from a single university in Sulaimaniyah city, offering preliminary insights into how youth engage with and interpret gendered digital content. These findings represent a first step toward a larger-scale, more regionally diverse study that can inform inclusive platform design and policy in the future.

2. Literature Review

2.1 Social Media and Data Collection

Social media platforms have evolved into powerful data-harvesting ecosystems, where every user interaction—likes, shares, watch duration, and even pauses—is collected, stored, and analyzed by underlying algorithmic systems. These platforms rely on continuous user engagement to refine their recommendation models, making data the fundamental asset behind personalization and monetization. Unlike traditional media that broadcast content uniformly, social media tailors user experiences through real-time data analysis, shaping the content individuals consume and the narratives they internalize (Schaefer, 2023).

The data collected is not limited to user preferences alone; it extends to demographic information, geographic location, device usage, social connections, and behavioral patterns. This granularity enables algorithmic systems to construct detailed user

profiles, which are then used to serve targeted content and advertisements. As such, platforms like Instagram, TikTok, and YouTube function not only as social networks but as engines of data extraction, where user behavior fuels the algorithmic loop (Tolentino, 2024).

This data-centric model raises ethical concerns regarding user consent, privacy, and surveillance. Many users remain unaware of the scope and implications of the data collected about them. The Cambridge Analytica scandal was one of the earliest wake-up calls regarding data misuse, showing how social media data could be exploited for political manipulation. However, the everyday operation of social media continues to involve opaque data practices that are often justified by vague terms of service (Digital Future Society, 2022).

From a technical standpoint, data is categorized into structured and unstructured forms. Structured data includes quantifiable attributes such as user demographics, engagement rates, and device metadata. In contrast, unstructured data comprises text posts, video content, images, and audio — all of which require complex natural language processing and image recognition algorithms. AI systems rely on both types of data to function effectively, particularly in the context of recommendation systems that aim to personalize user experience. However, these systems can inherit and amplify existing social biases present in the data. When historical and social inequalities—such as gendered patterns in media consumption or language use—are embedded in the data, the AI models trained on them may reproduce or even worsen these disparities (Manyika, Silberg, & Presten, 2019).

This is particularly critical for youth, who, through high engagement and content generation, actively shape the datasets used by such systems and, in turn, are influenced by their outputs.

In the context of algorithmic gender bias, the initial stage of biased outcomes often begins with biased data. If the data collected reflects existing societal gender norms, prejudices, and imbalances, these will inevitably be replicated in algorithmic outputs. Thus, understanding data collection on social media is not just a technical concern—it is foundational to analyzing broader ethical and social implications, particularly regarding representation and equality.

2.2 Content Recommendation Systems

Content recommendation systems have become a defining feature of digital platforms, determining what users encounter in their feeds, homepages, and search results. Powered by artificial intelligence (AI) and machine learning (ML), these systems analyze user behavior to tailor content that is most likely to capture attention and drive engagement (Tolentino, 2024). While personalization offers convenience and increased

satisfaction, it also raises concerns about the reinforcement of social stereotypes and the marginalization of diverse content, particularly regarding gender representation.

Most recommendation systems use two key techniques: **collaborative filtering**, which recommends content based on what similar users have engaged with, and **content-based filtering**, which matches new content to a user's prior activity and preferences. Increasingly, platforms implement hybrid systems to refine these predictions further (Ricci et al., 2015). However, these algorithms are designed to maximize engagement— not fairness—and thus often promote content that historically garners high interaction. This logic can unintentionally favor gender-stereotypical content, particularly when women are portrayed in limited roles that align with societal expectations (Manyika et al, 2019).

Social media platforms such as TikTok, YouTube, and Instagram exemplify how recommendation systems shape public discourse. These algorithms track each scroll, like, comment, and pause to continually refine what appears on a user's feed. The more one interacts with a certain type of content, the more likely they are to be shown similar posts, creating a self-reinforcing loop (Hern, 2022). TikTok's users often find themselves "stuck in a loop" where certain themes—such as beauty content for women and leadership or fitness content for men—are disproportionately promoted. This not only limits exposure to alternative perspectives but also subtly reinforces traditional gender roles.

The impact of these systems on gender representation is particularly concerning in regions with existing social inequalities. When AI algorithms promote content based on what is already popular or "safe," they often sideline material that challenges traditional norms, such as educational content featuring women in leadership roles or women working in male-dominated sectors. As a result, gender imbalances in visibility are amplified, making it more difficult to disrupt patriarchal patterns (Digital Future Society, 2022). These effects are especially problematic when recommendation systems are implemented in regions like the Middle East without cultural adaptation or regulatory oversight.

2.3 Bias in Content Recommendation

While content recommendation systems are designed to optimize user engagement, they often do so at the cost of fairness and diversity. Bias in these systems refers to the systematic favoring or suppression of certain content types, groups, or viewpoints due to historical patterns in training data or flawed algorithmic design. In the context of gender, such bias frequently results in the overrepresentation of content that reinforces traditional roles for men and women, and the underrepresentation of material that promotes gender equality or challenges stereotypes (Manyika et al, 2019). A striking

example of this imbalance can be seen in broader media trends: women constitute only 24% of individuals heard, read about, or seen in newspaper, television, and radio news. Even more troubling, 46% of news stories reinforce gender stereotypes, while a mere 4% actively challenge them (IMS, 2020). When such biases are embedded into the training data of algorithmic systems, they are not only preserved but also scaled— shaping content visibility on digital platforms at a much larger scale and with far less oversight.

Empirical research has documented this phenomenon in advertising as well. A landmark study by Lambrecht and Tucker (2018) found that women were significantly less likely than men to be shown ads for high-paying jobs in STEM fields—even when their qualifications were similar—because the platform's optimization favored historical click behavior. Though not explicitly discriminatory, the recommendation logic amplified pre-existing societal biases, disadvantaging women by default. The same logic applies to social media content, where historically "popular" gendered behaviors—such as women in entertainment or fashion—are amplified, while more complex or counter-stereotypical representations are filtered out.

In gender-conservative societies, algorithmic patterns of bias are often exacerbated by limited content moderation infrastructure and cultural norms. Major digital platforms tend to prioritize English-language moderation while lacking adequate tools and staff for monitoring content in many other languages. This gap allows gender-discriminatory material to circulate widely without consequences, while feminist or gender-equality content is more prone to being flagged, misclassified, or removed. According to internal documents revealed by whistleblowers and reported by CNN, Facebook was aware that it lacked the capacity to effectively detect and regulate harmful content in many parts of the world, particularly in non-English-speaking countries (Iyengar, 2021). These blind spots mean that users in regions like the Middle East or South Asia often experience skewed content regulation, which reinforces existing gender norms and silences progressive discourse. These failures are not simply technical oversights—they have profound social implications, especially for young people who increasingly rely on social media to navigate and form their understanding of gender roles.

Therefore, algorithmic bias in content recommendation not only reflects but also exacerbates real-world gender inequalities. Without deliberate efforts to design fairer systems and diversify training data, these platforms will continue to act as engines of social reproduction rather than transformation.

2.4 The Case of Iraqi Kurdistan: Gender Inequality and Imported Systems

In the Kurdistan Region of Iraq (KRI), the struggle for gender equality is deeply embedded in historical, cultural, and institutional structures. Despite progress in

education and public discourse, patriarchal values remain pervasive, influencing laws, family structures, media, and religious teachings. Women's participation in political and economic life remains limited, and gender-based violence, early marriage, and honor-related practices persist as systemic issues (SEED Foundation, 2021). These challenges are not only the result of tradition but are also perpetuated by weak enforcement of gender protection laws and limited institutional capacity to implement inclusive reforms.

The majority of technologies imported or used in such regions are developed in Western contexts, where societal norms, legal frameworks, and gender dynamics differ greatly from those in more conservative places. These systems are rarely localized to accommodate cultural sensitivities or social realities in places like Kurdistan, where gender norms are tightly interwoven with religion, tradition, and conservative social expectations. As a result, tools that were intended to be neutral or empowering may instead function in disempowering ways.

A key example is the way social media platforms, driven by Western-trained algorithms, prioritize engagement over inclusivity. In a region where women already face systemic barriers and underrepresentation in leadership, media, and public life, these platforms often reinforce the same disparities. Content that portrays women in progressive, empowered roles—particularly in politics, science, or activism—receives limited exposure compared to entertainment or beauty-related content. This risks discouraging young women and girls from envisioning themselves in leadership or non-traditional careers, as they rarely see themselves reflected in empowering ways online. In such a context, social media should serve as a space to counter deep-seated gender inequities, not amplify them through biased content recommendation systems that reflect global, not local, assumptions. Moreover, moderation systems embedded in these platforms often fail to recognize the nuances of Kurdish and Arabic discourse. Because most content moderation algorithms are trained on English-language data and designed with Western speech norms in mind, they struggle to accurately classify harmful or discriminatory speech in other languages. This means that gender-based hate speech, harassment, and abuse expressed in Kurdish or Arabic may go unnoticed and unregulated, allowing toxic content to circulate freely.

2.5 Youth Engagement with Digital Platforms

Globally, young people are the most digitally connected age group. As of 2024, 79% of individuals aged 15 to 24 use the Internet, compared to 66% among the rest of the population—a gap of 13 percentage points (International Telecommunication Union [ITU], 2024). This youth-led digital engagement is consistent across all global regions and has been gradually narrowing over the past four years. In fact, near-universal internet use (95% or more) among this age group has already been achieved in Europe, the Commonwealth of Independent States (CIS), and the Americas. Notably, even in

low-income countries, youth are 1.9 times more likely than older individuals to be online, highlighting their disproportionate digital presence in all socio-economic contexts (International Telecommunication Union [ITU], 2024).

Figure 1

Note. Reprinted from *Measuring digital development: Facts and figures*, by International Telecommunication Union, 2024, ITU Publications.

https://www.itu.int/dms_pub/itu-d/opb/ind/d-ind-ict_mdd-2024-4-pdf-e.pdf

Youth Internet use

Young people more likely to use the Internet than the rest of the population, but the gap is shrinking

Percentage of individuals using the Internet by age group, 2024

Region	Youth	Rest of the population
World	79	66
Africa	53	34
Americas	95	85
Arab States	86	67
Asia-Pacific	81	64
CIS	97	91
Europe	98	90
Low-income	43	23
Lower-middle-income	71	50
Upper-middle-income	97	78
High-income	99	93
LDCs	52	31
LLDCs	51	37
SIDS	78	62
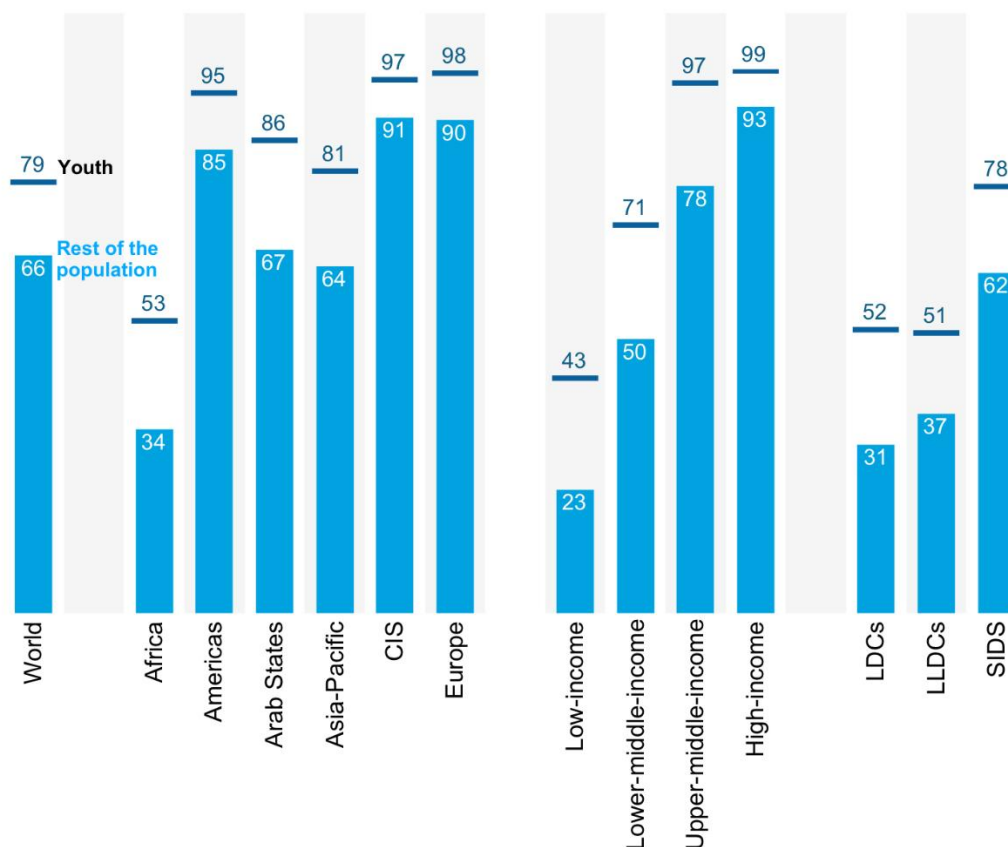
Note: "Youth" means 15 to 24-year-olds. "Rest of the population" means individuals younger than 15 or over 24. Visit the youth Internet use section of the online report for the interactive chart.
Source: ITU

This dominance in digital activity gives youth a central role in shaping the future of technological adoption and digital policy awareness. Young people are not only consumers but also content creators, trend-setters, and early adopters of emerging technologies, including artificial intelligence (AI) tools. Their usage patterns actively inform how algorithms evolve—what becomes popular, what is deprioritized, and what norms are reinforced online. Moreover, the youth demographic is critical in building future digital literacy norms, as their perceptions influence family, peer, and even institutional adoption of new technologies. This is especially relevant in regions like the Kurdistan Region of Iraq, where the youth population is large, digitally connected, and politically underrepresented.

3. Research Problem and Significance of the Study

Despite their importance, youth remain significantly underrepresented in research concerning algorithmic bias and digital governance. Most existing literature on AI ethics, platform governance, and content regulation is adult-centric and expert-driven. It focuses on technical risks or institutional accountability, often overlooking how young users perceive, experience, and respond to algorithmic decision-making. In developing countries, the data gap is even more severe. Youth in regions such as the KRI often engage with global platforms that were not designed with their cultural and linguistic realities in mind, yet their voices are rarely considered in platform reform or AI policy discussions.

This lack of youth-centered data limits the effectiveness of interventions aiming to promote equitable and inclusive digital spaces. Without qualitative and localized insights into how young people interpret algorithmic content, address online inequality, or imagine AI-driven solutions, policy responses risk being out of touch. Youth perceptions must be central to any efforts aimed at building fairer and more representative online environments.

4. Methodology

This research is a small-scale, exploratory pilot study that investigates how youth perceive algorithmic gender bias on social media and their ideas for its mitigation. A qualitative approach was adopted to capture participants' interpretations and experiences, which are often overlooked in quantitative assessments of digital bias.

Data was collected through in-person, semi-structured interviews with five university students—three female and two male—from the departments of Law (female), Social Science (female), English (female), Software Engineering (male), and Business Administration (male). Participants were selected through purposive sampling to ensure they were active social media users and had some exposure to gender discourse

through their university programs. Interviews ranged from 10 to 20 minutes, providing a balance between depth and accessibility.

Semi-structured interviews were chosen for their ability to combine flexibility with focus, allowing the researcher to guide the conversation while giving participants room to articulate their views in their own terms.

The analysis was conducted in two phases. First, transcripts were segmented and coded to identify recurring ideas related to gender bias and mitigation. Second, a thematic analysis was carried out, grouping codes under broader themes such as awareness of bias, perceptions of social impact, and suggested strategies for improvement. Coding and segmentation were conducted with the assistance of Qualitative Research Assistant 4.0, an AI tool designed to support rigorous qualitative data analysis.

While the sample is not representative, the study provides valuable preliminary insights and helps shape the direction of future research on youth digital engagement and gender equity in algorithmic systems.

5. Results

Across all interviews, participants described social media as reinforcing traditional gender roles while also shaping new perceptions of gender. Common themes included unequal representation, the role of religion and culture, and mixed views on digital tools for promoting gender equality.

5.1 Software Engineering

5.1.1 Perceptions of Gender Bias

The participant articulated a perception that social media reproduces traditional gender hierarchies in professional roles. He noted that men are often portrayed as more "stable," "efficient," and suitable for high-ranking jobs such as CEOs, while women are associated with support roles such as assistants or domestic work. He remarked, "They choose a man to be a CEO of a company and they choose a woman to be… an assistant." This reflects how algorithmic content on social media may mirror and reinforce gendered expectations rooted in local culture.

5.1.2 Awareness of Bias on Social Media

Although the student acknowledged that gender bias exists, he emphasized that social media content is largely driven by personal interest rather than societal needs: *"Social media gives me the things that I'm interested in."* He admitted that he rarely encounters posts related to women's empowerment unless they are widely circulated. This

suggests that algorithmic filtering may limit users' exposure to gender-related issues, unless those issues intersect with their established interests. The participant also observed a strong male dominance in leadership representations online, stating, *"90% of the leaders of the world are men."* He referenced global political figures to emphasize the visibility of male leadership and the relative invisibility of women in similar roles.

5.1.3 Exposure to Harmful Content

The student described frequent exposure to misogynistic content, including videos that harass women. He strongly opposed this content, expressing that such portrayals conflict with his values: "That's terrible because you have a mother… your sister is a female…" This shows a personal moral stance against gender-based disrespect and harassment in online spaces.

5.1.4 Trust in Digital Solutions for Reporting

The participant expressed cautious optimism regarding the use of anonymous digital tools for reporting gender-based violence. He stated, "If it's anonymous… people will help. And if people help, more women will trust in that app." While recognizing initial skepticism, he believed trust could grow through observed community support and successful outcomes.

5.1.5 Suggested Mitigation Strategies

He suggested using online content to promote respect and recognition for women, especially through culturally relevant events such as Mother's Day: "Celebrate women more, respect women more." Additionally, he proposed showcasing women's achievements in male-dominated fields, such as engineering, as a strategy to reshape societal views: "If it's an engineering girl, posting things like 'I did that,' it could change minds." He also noted that men, too, face pressures due to rigid gender roles, particularly when entering nurturing professions like nursing.

5.1.6 Cultural Acceptance of Balanced Gender Representation

Finally, the student acknowledged significant cultural resistance to gender equality initiatives, especially when introduced through educational programs or social media campaigns. He suggested that some community members might view such efforts as intrusive or incompatible with religious norms, stating, "They think it's a toxic idea." He emphasized the need for culturally sensitive approaches to avoid backlash and increase public receptivity.

5.2 English

5.2.1 Perceptions of Gender Bias

The participant viewed gender representation on social media as a reflection and reinforcement of existing cultural norms. She stated that local gender roles are already well-established and are "obviously reflective in social media as well." Social media both shapes and is shaped by these societal expectations, creating what she described as a "circle moment," where the influence flows in both directions.

5.2.2 Awareness of Bias on Social Media

She recognized the uneven visibility of gender in leadership roles online, noting: "I can't remember the last time I saw anything about women in leadership. I do definitely see more things about men in leadership." She also acknowledged the blended influence of Western and local content but believed the local impact was stronger: "I feel like locally more so... this effect happens more locally."

5.2.3 Trust in Digital Solutions for Reporting

The participant expressed cautious support for anonymous digital platforms to report gender-based violence or discrimination. Initially hesitant, she acknowledged the potential usefulness of such applications: "Why wouldn't this be useful if it's helping out in these ways?" However, she emphasized the importance of educational outreach to build public trust in such platforms, suggesting that people need to understand "what happens if I report" and that "awareness on how the process is" would be essential. She also expressed concerns over digital privacy and cited examples of apps misusing sensitive data, such as period trackers leaking information related to pregnancies.

5.2.4 Suggested Mitigation Strategies

She emphasized the importance of awareness-based content to shift societal perceptions. Her suggestions included encouraging more individuals to speak publicly about gender differences and inequalities and to challenge biases directly: "Making them aware of these differences is the most important thing." She also advocated for more freedom of expression in online platforms, cautioning against over-regulation: "These platforms can sometimes restrict... that is a huge problem and a huge barrier." Additionally, she noted that local language use (e.g., Kurdish) allows for more unregulated harassment online, since such content is less likely to be flagged by moderation algorithms.

5.2.5 Cultural Acceptance of Balanced Gender Representation

While the participant believed in the importance of gender equity, she noted that local communities may resist initiatives perceived as "Westernization." She mentioned that

people *"get a bit defensive with these kinds of things,"* and emphasized the need for cultural sensitivity when designing gender-related content or educational campaigns.

5.3 Business

5.3.1 Perceptions of Gender Bias

The participant emphasized that societal perceptions of gender roles are deeply shaped by religious interpretations, which are amplified on social media. He noted that *"religious background... makes people see women as incapable,"* and cited linguistic examples to illustrate how cultural and religious narratives differ—*"in Kurdish, Jin comes from Jian, which means life, but in Arabic, Nisaa is associated with the meaning of dependence."* This highlights a tension between indigenous cultural values and dominant religious framings that diminish women's autonomy.

5.3.2 Awareness of Bias on Social Media

He observed that social media serves as a channel for reinforcing traditional gender roles. Posts advocating for women's independence or challenging these roles often attract hostile responses: *"They should be banned... they're going to ruin our pure society."* In contrast, content that supports conservative gender expectations receives widespread approval, which he attributed to religious and cultural conditioning. Although he acknowledged that leadership representation is skewed toward men, he attributed this imbalance to global media rather than local culture. *"I've noticed there is a difference... but it's not related to our culture. These are Western politicians."* This detachment reflects a perceived distance from global gender dynamics.

5.3.3 Trust in Digital Solutions for Reporting

The participant was skeptical about the public's trust in online tools for reporting gender-based violence. He remarked, *"People don't have that knowledge... they're afraid of hacks or something like that."* However, he admitted that online anonymity might give users a sense of safety, noting that many people already use social media freely to express extreme views without fear of consequences. Despite this, he suggested that public trust in reporting tools would be low at the initial stage, though *"it has potential."*

5.3.4 Suggested Mitigation Strategies

He proposed that changing gender perceptions would require a gradual and culturally sensitive approach. Specifically, he recommended beginning with religious reinterpretation, arguing that challenging outdated religious narratives is essential: *"There is some holiness in people's mind... we need to step by step break it."* He

acknowledged the difficulty of this approach but saw it as the necessary foundation for shifting societal attitudes toward gender.

5.3.5 Cultural Acceptance of Balanced Gender Representation

The participant framed cultural resistance as rooted in the sanctity attached to religious narratives about gender. He cautioned that any push for gender equality would be met with opposition unless it addresses what people consider *"holy."* Thus, he advocated for a reformative—not oppositional—approach: *"We can't press differently... we have to go step by step."*

5.4 Social Science

5.4.1 Perceptions of Gender Bias

The participant described social media as contributing to negative self-perception among both genders, but especially among women. She noted that platforms often push idealized beauty standards, which lead women to *"feel like [they] are less,"* prompting behaviors such as plastic surgery to meet unrealistic expectations. For men, the pressure is associated with wealth and success. She emphasized that these portrayals foster insecurity, comparison, and the pursuit of unattainable ideals.

5.4.2 Awareness of Bias on Social Media

Social media was seen as biased in content distribution, particularly favoring male-centered narratives. The participant noted a consistent presence of male-dominated content—like sports and political news—on her male friends' feeds, while female-centered content was often limited to aesthetics or surface-level attributes. Moreover, women in media were frequently ridiculed or dismissed, especially in comment sections: *"Even when I see women [leaders], they use them as a meme."* The participant rarely encountered female leaders in news content, stating *"I don't see it at all."* When women did appear, it was often in secondary roles such as anchors, not decision-makers. She described a digital environment where women's contributions were undervalued or subject to harsher criticism compared to their male counterparts.

5.4.3 Cultural Acceptance of Balanced Gender Representation

She argued that gender stereotypes are deeply embedded in social norms and that local perceptions of gender equity are shaped by parental and generational attitudes. For example, she recalled being taught to *"just accept what the guy says."* Despite these constraints, she pointed out that localized and culturally appropriate interventions—such as showcasing hijabi women in professional roles—could improve acceptance and relatability.

5.4.4 Trust in Digital Solutions for Reporting

The participant expressed skepticism about whether women in her community would trust anonymous digital reporting systems. She attributed this to limited digital literacy and general mistrust in platforms. However, she saw potential in increasing trust through awareness campaigns and educational content: "If we advertise it, and show cases, people will trust it over time."

5.4.5 Suggested Mitigation Strategies

She emphasized that digital content must be localized and culturally attuned. Instead of using foreign or Western materials, she recommended leveraging religious narratives to legitimize gender equity: *"We can say, look, even in Islam women are respected... like glass, you have to take care of them."* She believed that when religious values were reinterpreted to support equity, they could become powerful tools for societal change.

5.4.6 Empowerment Through Online Content

The participant strongly advocated for success stories of local women as a counter to prevailing stereotypes. She noted the absence of such narratives on social media and recommended showcasing the work of Kurdish women and organizations: *"We have a lot, but no one knows because they don't show it."* She also highlighted the educational value of such content, especially for young women who may not be aware of their rights.

5.6 Law

5.6.1 Gender Representation on Social Media

The participant reported that women are often used strategically in visual media, particularly in marketing and advertising, but rarely appear in neutral or professional contexts unless deliberately included for visibility. She noted that men are typically shown as the primary agents, particularly in images related to travel, business, or professional achievements. In contrast, women tend to be displayed as subordinate or supportive figures, often without their names or images being shown when credited professionally.

5.6.2 Perception of Gender Roles

Social media was viewed as reinforcing traditional gender hierarchies. The participant observed that in workplaces—such as agencies or shops—women are frequently represented in assistant or subordinate roles, while men typically occupy leadership or ownership positions. This trend also extended to legal professions, where male lawyers are visibly represented with their cases, whereas female lawyers are often mentioned

without any accompanying imagery. This differential visibility, she argued, subtly reinforces a gendered hierarchy of authority and expertise. The participant emphasized that online content, particularly local content, often underrepresents women in positions of leadership or authority. She noted that international platforms and NGOs were more likely to feature empowering narratives about women, while local actors rarely portrayed women in leadership roles. Moreover, she highlighted that women featured in public roles—especially those from the region—frequently face backlash in the form of derogatory comments and personal attacks, which can discourage broader participation.

5.6.3 Cultural Acceptance of Gender Equality Initiatives

The participant discussed that schools in the region had begun engaging with social media through platforms like Facebook and Instagram, but their reach remained limited to parents and students. She pointed out that such content rarely extends beyond the immediate school community and thus lacks the broader societal impact necessary for significant change. While she believed that awareness could grow over time, early efforts were likely to encounter resistance and limited visibility.

5.6.4 Trust in Digital Reporting Mechanisms

Regarding anonymous digital tools for reporting violence or discrimination, the participant expressed strong support. She emphasized that anonymity provides a safer avenue for victims to report incidents without fear of retaliation or societal judgment. However, she also acknowledged that initial public trust would be low due to fear of victim-blaming and general skepticism. She advocated for increased transparency about how these systems function and education campaigns to foster acceptance and usage.

5.6.5 Recommended Content for Awareness and Change

To promote gender equity, the participant recommended online content that is both educational and reflective of real-life experiences. She proposed showcasing anonymous stories of workplace or societal discrimination, alongside supportive and motivational material that helps both women and men understand and navigate gender roles. Importantly, she stressed the need for culturally sensitive approaches—such as using real voices with altered identities—to prevent backlash while maintaining authenticity. Furthermore, she advocated for pragmatic content where professionals explain challenges in their fields, providing realistic insights rather than idealized portrayals.

5.6.6 Caution and Awareness as Tools for Change

The participant concluded that raising awareness about discrimination and inequality could subtly influence behavior, even among those who outwardly dismiss such concerns. She argued that social caution—comparable to avoiding known dangers—can shape public attitudes and behaviors, especially when individuals become more aware of the risks associated with discriminatory practices or environments.

6. Conclusion and Future Research

This pilot study offers early insights into how youth in the Kurdistan Region of Iraq interpret algorithmic gender bias on social media platforms and what culturally informed strategies they envision for mitigation. Through rich, semi-structured interviews, participants revealed a nuanced understanding of gender representation online, shaped by intersecting influences of religion, culture, language, and media exposure. Despite acknowledging the platform's potential to reproduce traditional gender roles, participants also identified opportunities for digital spaces to become sites of empowerment, education, and social change—provided that interventions are localized and respectful of community norms.

Participants' suggestions, including culturally embedded content strategies, anonymized reporting tools, and visibility of women in leadership roles, underscore the need for inclusive design practices in platform governance. These perspectives reinforce the importance of youth engagement in AI ethics and digital policy, especially in underrepresented regions where global systems are deployed without adequate localization.

Given the small and purposively selected sample, findings are not generalizable but are valuable in generating hypotheses and guiding the next phase of research. Future studies should adopt a larger, more diverse sample across multiple universities and regions within Iraq to explore variability in perceptions and suggestions. Additionally, comparative research across different cultural contexts could deepen our understanding of how algorithmic bias is perceived and contested globally.

Further research should also examine the operational viability of suggested mitigation strategies, particularly in relation to trust-building in anonymous digital tools and the potential of religious reinterpretation in shaping public acceptance. Mixed-methods approaches may complement qualitative findings by assessing the scale of bias perceptions and testing specific interventions. Ultimately, sustained engagement with youth voices will be critical to ensuring that emerging digital governance models are both equitable and contextually grounded.

References

Digital Future Society. (2022, March 7). *Algorithmic gender discrimination: Where does it come from, what is the impact and how can we tackle it?* https://digitalfuturesociety.com/algorithmic-gender-discrimination-where-does-it-come-from-what-is-the-impact-and-how-can-we-tackle-it/

Hern, A. (October 26, 2022). *How TikTok's algorithm made it the most popular app in the world.* The Guardian. https://www.theguardian.com/technology/2022/oct/23/tiktok-rise-algorithm-popularity

IMS (International Media Support). (February 21, 2020). *The Crucial Role of Media in Achieving Gender Equality.* https://www.mediasupport.org/the-crucial-role-of-media-in-achieving-gender-equality/

International Telecommunication Union. (2024). *Measuring digital development: Facts and figures.* ITU Publications.

https://www.itu.int/dms_pub/itu-d/opb/ind/d-ind-ict_mdd-2024-4-pdf-e.pdf

Iyngar, R. (2021, October 26). *Facebook failed to police abusive content globally — especially in languages other than English, documents show.* CNN Business. https://edition.cnn.com/2021/10/26/tech/facebook-papers-language-hate-speech-international/index.html

Lambrecht, A., & Tucker, C. E. (2018). *Algorithmic bias? An empirical study into apparent gender-based discrimination in the display of STEM career ads.* Gender Action Portal, Harvard Kennedy School. https://gap.hks.harvard.edu/algorithmic-bias-empirical-study-apparent-gender-based-discrimination-display-stem-career-ads

Manyika, J., Silberg, J., & Presten, B. (2019, October 25). *What do we do about the biases in AI? Harvard Business Review.* https://www.nwscrs.org/uploads/4/1/5/1/41511209/biases_detected_by_ai.pdf

Ricci, F., Rokach, L., & Shapira, B. (2015). *Recommender Systems Handbook* (2nd ed.). https://www.researchgate.net/publication/227268858_Recommender_Systems_Handbook

Schaefer, A. (2023, July 6). *How to collect and mine your social media data for growth.* Sprout Social. https://sproutsocial.com/insights/social-media-data-collection/

SEED Foundation. (2021, September). *Gender analysis: Kurdistan Region of Iraq.*

https://www.seedkurdistan.org/Downloads/GenderEqualityKRI/Gender_Analysis_Of_Iraq.pdf

Tolentino, T. (2024, March 17). *AI marketing: How algorithms drive business growth.* Marketing Scoop. https://www.marketingscoop.com/ai/ecommerce-data-collection/

Disclaimer

This research paper was refined using ChatGPT 4o to enhance wording and fluency. The original research remains unchanged, with the tool used for linguistic and format improvement.