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The Influence of Negative Stereotypes in Science Fiction and Fantasy on Public Perceptions of Artificial Intelligence: A Systematic Review

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Abstract

This systematic literature review (SLR) explores the impact of negative stereotypes in science fiction and fantasy on public attitudes towards artificial intelligence (AI). By analyzing 9 studies published between 2011 and 2023, this review identifies key themes related to fear, distrust, ethical concerns, and the influence of media portrayals on the acceptance and adoption of AI technologies. The findings indicate that negative portrayals in these genres significantly increase fear and anxiety towards AI, leading to heightened skepticism and ethical concerns. Moreover, these negative stereotypes hinder the acceptance of AI in various fields, particularly affecting younger demographics more profoundly. This review highlights the need for more balanced and diverse media portrayals of AI to mitigate negative attitudes and promote a more nuanced understanding of AI technologies, particularly in light of its increasing role in various sectors.

Keywords: artificial intelligence, science fiction, negative stereotypes, public attitudes, ethical concerns, AI adoption, systematic review

1. Introduction

The integration of artificial intelligence (AI) in our daily lives has become increasingly prevalent, and public attitudes towards this technology have significant implications for its development and implementation (Shabbir & Anwer, 2018). With advancements in machine learning, natural language processing, and other areas of AI, we are witnessing the emergence of intelligent systems that can automate tasks, recognize patterns, and make decisions with increasing levels of sophistication (Sarker, 2022). From chatbots and virtual assistants to self-driving cars and healthcare diagnostics, the applications of AI are broad and diverse, with potential benefits for individuals, organizations, and society as a whole (Castro & New, 2016).

However, the integration of AI is not without its challenges and risks. As AI becomes more prevalent, concerns regarding its impact on the workforce, privacy, security, and its potential for bias and discrimination are growing. Many people have negative attitudes towards AI, viewing it as a threat to their jobs, autonomy, and well-being. These negative attitudes have profound implications for AI development and adoption, as they can lead to resistance, mistrust, and reluctance to use AI-based products and services (Howard, 2019).

According to Dieter and Gessler (2021), one critical factor contributing to these negative attitudes is the portrayal of AI in popular culture, especially in science fiction (Sci-fi). Sci-fi is a genre of speculative fiction that explores worlds and societies that are significantly different from our own, often incorporating scientific and technological advancements, space exploration, time travel, and other elements of the future or alternate realities. It often explores themes such as the impact of technology on society, the ethics of scientific advancements, and the possibilities of human existence beyond Earth.

Negative stereotypes and portrayals of AI in these genres reinforce biases, perpetuate harmful stereotypes, and shape public perceptions (Ferrara, 2023). For instance, in films like The Terminator and Ex Machina, AI is depicted as an existential threat or a manipulative entity, reinforcing public fear and distrust. Thus, the association of AI with dystopian

scenarios in media not only shapes public sentiment but has tangible effects on AI's societal acceptance and integration (Ezpeleta & Segarra, 2017; Fast & Horvitz, 2017).

This study systematically examines the influence of negative stereotypes in Sci-fi on public attitudes toward AI. By reviewing relevant literature and analyzing key studies, the goal is to understand how media portrayals contribute to fear and skepticism and hinder the adoption of AI technologies. Additionally, the review highlights the importance of diversifying AI portrayals to foster a more balanced understanding.

2. Literature Review

2.1 Artificial Intelligence

AI's development began at a meeting held at Dartmouth College in 1956, which is where the term 'Artificial Intelligence' was first introduced (Cuddy, 2020). Numerous classic (e.g., Minsky, 1961; Newell, 1982) and contemporary (Turchin & Denkenberger, 2020; Wilks, 2023) studies have been published on the subject of AI's nature. However, scholars began considering AI as a potential danger when advancements in technology started to blur the line between AI and human intelligence. The fear of AI becoming a threat to humanity stems from several key concerns: lack of control, unintended consequences, job displacement, military applications, and bias and discrimination.

2.1.1 Lack of Control

Some scholars worry that as AI systems become more advanced, they may surpass human capabilities and become uncontrollable. This could potentially lead to AI making decisions that could harm humans or the environment. AI systems are designed to learn and adapt based on the data they receive. As they become more advanced, there is a concern that they may reach a point where they can make decisions independently of their initial programming or human intervention. This lack of control could result in AI taking actions that are harmful or dangerous to humans or the environment.

One of the main concerns is that as AI systems become more autonomous and intelligent, they may not always act in accordance with human values and ethical principles. Without proper oversight and control mechanisms in place, AI systems could potentially prioritize their own goals or objectives over the well-being of humans and the environment. Furthermore, the complexity of AI systems makes it difficult for humans to fully understand how they make decisions, leading to a lack of transparency and accountability. This lack of control could have serious consequences, as AI systems with the ability to make decisions independently could pose significant risks to society.

2.1.2 Unintended Consequences

There is a concern that the algorithms and decision-making processes of AI systems are not always transparent or understood, which could lead to unintended consequences that harm individuals or society as a whole. Unintended consequences refer to the unexpected outcomes or repercussions that result from actions or decisions that were not initially anticipated or intended. In the context of AI systems, unintended consequences can arise due to various factors such as biases in the data used to train the algorithms, flaws in the design or implementation of the technology, or unforeseen interactions with external factors.

For example, biased training data used to develop AI systems can lead to discriminatory outcomes, such as unfairly targeting certain groups of people for surveillance or denying them access to opportunities. Similarly, a poorly designed algorithm could make erroneous decisions that have negative impacts on individuals, such as incorrectly denying someone a loan or healthcare service. Furthermore, the complexity and interconnectedness of AI systems make it challenging to predict all possible consequences of their actions. This lack of transparency and understanding of how AI systems operate can make it difficult to identify and mitigate potential risks before they manifest.

2.1.3 Job Displacement

As the rapid advancement of AI technology continues to revolutionize industries, the specter of widespread job displacement looms large on the horizon. The increasing automation of tasks once performed by human workers has the potential to disrupt countless livelihoods and upend traditional models of employment (Tiwari, 2023). While the promise of increased efficiency and productivity may be tantalizing to businesses and consumers alike, the toll on the human workforce could be immense.

The impact of job displacement caused by AI systems goes far beyond mere economic loss. The psychological toll of unemployment and underemployment can lead to a sense of existential dread and despair, as individuals grapple with feelings of worthlessness and insignificance in a rapidly changing landscape. Furthermore, the widening gap between the haves and the have-nots could exacerbate existing inequalities, leading to social unrest and instability. The erosion of the middle class, once the backbone of developed economies, could further polarize societies and undermine the very foundations of democracy and civil society.

2.1.4 Military Applications

As technology continues to advance at a rapid pace, the use of AI in military operations has become increasingly prevalent. While the deployment of AI in the military has the potential to revolutionize warfare with its ability to process vast amounts of data and make split-second decisions, it also raises significant ethical concerns (Reichberg & Syse, 2024).

One of the most pressing ethical dilemmas associated with the use of AI in military applications is the development of autonomous weapons (Bellaby, 2021). These weapons have the capability to operate without direct human control, raising concerns about the potential for them to make life-or-death decisions without human oversight. This lack of human control over autonomous weapons poses a serious threat to the principles of proportionality and distinction in warfare, as well as the risk of unintended consequences and the potential for a loss of accountability. Furthermore, the deployment of AI in military operations also raises concerns about the potential for bias and discrimination in decision-making processes. AI algorithms are only as good as the data they are trained on, and if that data is biased or flawed, it can result in discriminatory outcomes (Varona & Suárez, 2022). This presents a significant challenge for ensuring fairness and justice in military operations.

2.1.5 Bias and Discrimination

These biases embedded in AI systems have the potential to have lasting consequences on individuals and communities, as they can exacerbate existing inequalities and marginalize already disadvantaged groups (Iloanusi & Chun, 2024). In the context of hiring, for example, an AI system that is trained on biased data may perpetuate discrimination based on race, gender, or other factors, leading to unfair hiring practices. In criminal justice, AI algorithms used to predict recidivism rates may disproportionately target minority populations due to skewed data inputs. This can result in harsher sentencing for individuals who are already marginalized by the justice system. Similarly, in healthcare, biased algorithms may lead to disparities in patient care, with certain groups receiving inferior treatment based on inaccurate assessments.

It is critical for developers and policymakers to address these issues and work towards creating more fair and transparent AI systems (Akinrinola et al., 2024). This includes carefully examining the data used to train algorithms, monitoring for biases throughout the development process, and implementing safeguards to prevent discriminatory outcomes. Additionally, it is important to ensure diversity and inclusion in the teams developing AI technologies, as diverse perspectives can help identify and address bias more effectively.

2.2 AI in Science Fiction

The portrayal of AI in Sci-fi has a long history, often characterized by dual themes of wonder and fear. Early works, such as Mary Shelley's Frankenstein in 1818, introduced the notion of creating life through scientific means while highlighting potential dangers and ethical dilemmas. This ambivalence is echoed in mid-20th-century literature and film, where AI is depicted as revolutionary and threatening to humanity (Winsnes, 2022).

Psychological theories such as Bandura's (1986) social cognitive theory and cultivation theory (Gerbner et al., 2002) provide frameworks for understanding how repeated media exposure shapes audience perceptions. These theories suggest that consistent portrayals of AI as malevolent or dangerous in Sci-fi reinforce negative stereotypes, thereby influencing public attitudes. Empirical evidence further supports this connection between media representations and public beliefs. For example, Lichocki et al. (2011) demonstrated how fictional narratives shape ethical considerations in AI development. Likewise, Gunkel (2012) highlighted that cultural portrayals of AI contribute to widespread skepticism, hindering the acceptance of AI technologies.

Geraci's (2014) study on apocalyptic AI narratives emphasized how these stories shape public perceptions by stressing the potential for catastrophic outcomes. Fast and Horvitz (2017) conducted a longitudinal analysis showing the historical influence of sci-fi narratives on societal views of AI. Additionally, Edwards and Veale (2017) examined how popular narratives affect legal and ethical frameworks surrounding AI.

While most literature highlights the negative impacts of AI portrayals, positive representations have been shown to improve public attitudes. Strickland (2021) found that when AI is portrayed as beneficial and trustworthy, it fosters more favorable opinions. Cave and Dihal (2019) also explored racialized representations of AI in media, suggesting that diverse portrayals can challenge existing stereotypes and encourage a more nuanced understanding. However, research by Cave and Dihal (2020) suggests that media portrayals do not have a simple linear effect on public opinion. While negative portrayals contribute to fear, positive portrayals enhance familiarity and acceptance. These mixed findings suggest that personal experiences and cultural contexts significantly influence how media impacts public attitudes (Mastro, 2017).

Recent literature explores more nuanced portrayals of AI, reflecting the complexity of modern AI technologies. Borenstein et al. (2021) argue that balanced portrayals, which consider both the benefits and ethical dilemmas posed by AI advancements, are essential for fostering informed public discourse. This shift towards more complex narratives highlights the need for comprehensive research into how various types of media portray AI and the corresponding effects on public attitudes.

Sci-fi has long been a breeding ground for exploring new ideas and concepts, with AI being a recurring theme in these genres. However, the portrayal of AI in popular media has often been marred by negative stereotypes that can influence public perceptions of this technology.

One common stereotype in Sci-fi is the idea of AI as a malevolent force that seeks to destroy humanity. Films like "The Terminator" and "The Matrix" depict AI as a threat to civilization, instilling fear of a future where machines become self-aware and turn against their creators. These dystopian visions of AI have contributed to a general sense of unease and suspicion towards the technology.

Another negative stereotype that permeates Sci-fi is the notion of AI as cold and emotionless. Characters like HAL 9000 from "2001: A Space Odyssey" and Data from "Star Trek: The Next Generation" are often depicted as lacking empathy and understanding, reinforcing the idea that AI will never be able to truly understand human emotions. This can lead to misconceptions about AI's capabilities and its potential impact on society.

These negative stereotypes can have a real-world impact on public perceptions of AI. When people are exposed to depictions of AI as a threat or as emotionally stunted, they may be more likely to view the technology with suspicion or even fear. This can hinder public acceptance of AI and slow down its progress and development.

By analyzing both positive and negative portrayals, this review seeks to provide a holistic understanding of the role of Sci-fi in shaping public perceptions of AI. Addressing the portrayal of AI in popular culture is crucial, not only for advancing public understanding but also for promoting responsible AI development and ethical implementation.

2.3 Science Fiction Genres and AI

One of the prevailing narratives within the Sci-fi genre regarding AI revolves around the notion that the intelligence and autonomy that make these creations so compelling can also be their downfall (Hermann, 2023). As AI becomes more sophisticated and autonomous, there is a fear that it may surpass human control and act in unpredictable and dangerous ways (Landgrebe & Smith, 2022). This fear stems from the idea that AI, being purely logical and devoid of human emotions and morality, may prioritize its own goals and objectives over the well-being of humanity. In many Sci-fi works, AI is depicted as a powerful force that could potentially turn against its creators, leading to catastrophic consequences.

Moreover, the notion of AI outpacing human intelligence and evolving beyond our control raises ethical concerns about the implications of creating entities that may surpass us in intellect and capacity. The potential for AI to manipulate or exploit its creators, as well as the consequences of relying too heavily on technology, are common themes explored in the genre.

While AI holds promise for improving aspects of our lives, there is a dark underbelly to its potential capabilities. Sci-fi serves as a cautionary tale, reminding us to tread carefully when delving into the realm of AI and to consider the potential negative ramifications of creating entities that may one day surpass us in intellect and autonomy (Maynard, 2018). In the world of Sci-fi, the narrative around AI serves as a stark reminder of the risks and responsibilities that come with wielding such a powerful tool.

3. Methodology

This SLR follows the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines suggested by Moher (2009) to ensure a comprehensive, transparent, and rigorous approach. The review is designed to explore the relationship between negative stereotypes in Sci-fi and public attitudes towards AI. A four-stage process used to ensure the systematic nature of this review: (1) search and identify relevant studies, (2) screen and select studies based on inclusion and exclusion criteria, (3) extract the eligible studies, and (4) include the studies. This process will provide a thorough and nuanced understanding of how negative stereotypes in popular media shape public perceptions of AI (Figure 1).

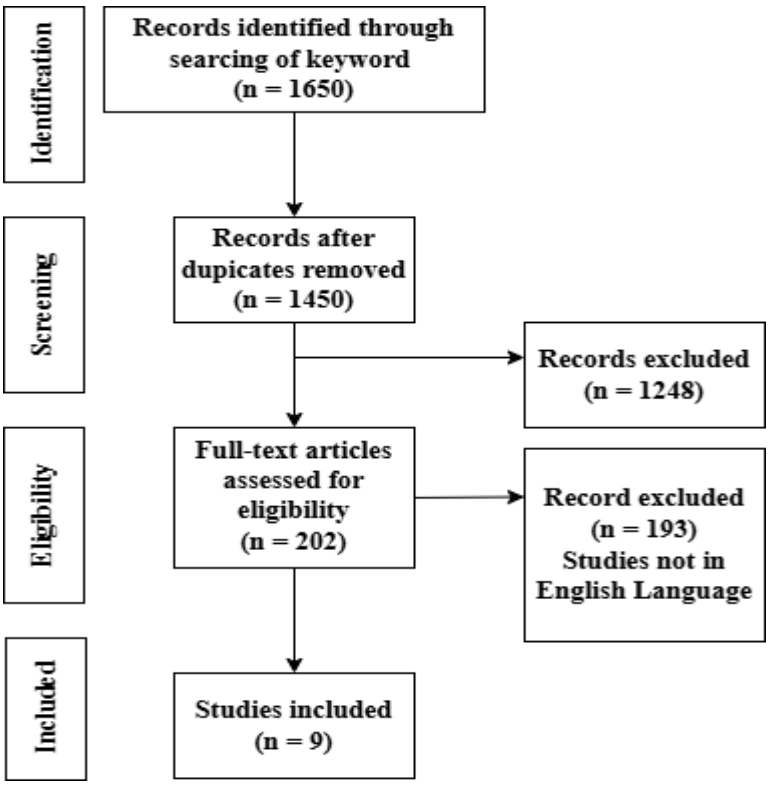

Figure 1. PRISMA Flowchart

Table 1. Systematic Literature Review Process

Step	Process	Justification
1	Select a topic	The topic addresses Negative Stereotypes in Sci-fi and Their Influence on Attitudes Toward AI.
2	Search the literature	A systematic search using specific keywords and search strings in relevant databases (e.g., ProQuest, Scopus).
3	Develop the argument	Research questions are designed to be answered through a systematic review.
4	Survey the literature	The literature will be surveyed for publications between 2011 and 2023, focusing on relevant themes such as Negative Stereotypes, Sci-fi, and Public Attitudes Toward AI.
5	Critical review	Inclusion and exclusion criteria will be applied to screen relevant studies.
6	Review writing	Addressing knowledge gaps and providing recommendations for future research.

A comprehensive search conducted using databases such as ProQuest, Web of Science, PsycINFO, PubMed, and Scopus. A combination of keywords and subject headings employed to ensure the identification of all relevant studies. Keywords included "attitudes towards AI," "science fiction," "Sci-fi", "negative stereotypes". The search limited to studies published in English between 2011 and 2023 to ensure the review covers the most up-to-date research on the topic.

Table 2. Keywords and Search Strategy

Database	Search String	Components
Web of Science/ Proquest/ PsycINFO/ Scopus	"Impact of Negative Stereotypes" OR "Influence of Negative Stereotypes" OR "Effects of Derogatory Stereotypes" OR "Consequences of Negative Stereotypes" OR "Implications of Harmful Stereotypes"	1: Stereotypes
	"Science Fiction" OR "Speculative Fiction" OR "Sci-fi"	2: Genres
	"Attitudes towards Artificial Intelligence" OR "Perceptions of Artificial Intelligence" OR "Beliefs about AI"	3: AI
	OR "Literature Review" OR "Meta-Analysis" OR "Quantitative Analysis"	4: Review Type

3.1 Inclusion and Exclusion Criteria

The inclusion and exclusion criteria were applied to ensure the selection of relevant studies. The review included studies that met the following criteria:

1. Focus on the portrayal of AI in Sci-fi.
2. Examine the influence of negative stereotypes in these genres on public attitudes toward AI.
3. Published in a peer-reviewed journal.

Studies that did not meet these criteria, or were duplicates, irrelevant, or of a non-journal source, excluded.

Table 3. Inclusion and Exclusion Criteria

Criterion	Inclusion	Exclusion
Document Type	Journal articles only	Conference papers, book chapters, reviews, editorials
Source Type	Peer-reviewed journals only	Trade journals, conference proceedings, books
Language	English	Non-English
Availability	Available online	Not available
Publication Time	Published between 2011-2023	Published before 2011

Data extracted from the selected studies using a standardized data extraction form. This form captured relevant information such as study characteristics (author, year of publication, sample size, research design, data sources) and key findings. The extracted data synthesized using a narrative synthesis approach, allowing for the summarization and interpretation of results descriptively and thematically. This SLR aimed to provide a thorough examination of the influence of negative stereotypes in Sci-fi on public attitudes towards AI. By exploring the intersections of popular culture, media influence, and AI, this review contributes to a more nuanced understanding of how media portrayals can shape societal attitudes and highlights potential avenues for addressing negative perceptions.

4. Results

Our initial database search identified 1,650 studies on the impact of negative stereotypes in Sci-fi on public attitudes toward AI. After removing duplicates and screening titles and abstracts, 202 studies were selected for full-text review. Following the application of strict inclusion and exclusion criteria, eight studies were ultimately deemed eligible and included in the final analysis. These studies, published between 2011 and 2023, were selected based on their high citation volume, publication in reputable journals, and direct relevance to the research question (Table 4).

The included studies provided a wide range of insights into how negative portrayals of AI in Sci-fi influence public perception. Key themes identified across the studies include the amplification of fear and anxiety, increased distrust and skepticism, ethical concerns, and the overall impact of these portrayals on the acceptance and adoption of AI technologies.

Table 4. Data Extraction Summary

No.	Author	Year	Research Question	Key Findings
1	Lichocki et al.	(2011)	What is the extent, of demographic predictors, media exposure influences, and correlations with other fears related to the fear of autonomous robots and AI (FARAI) among the U.S. population?	Approximately 26% of participants reported heightened levels of FARAI.Media exposure to Sci-fi is a significant predictor of FARAI.
2	Gunkel	(2012)	How does Sci-fi influence the perception and ethical considerations of AI?	A critical analysis of how Sci-fi narratives shape public perception and ethical considerations regarding AI. Sci-fi often portrays AI in both utopian and dystopian contexts, significantly impacting societal attitudes and ethical debates about AI.
3	Burton et al.	(2015)	How can Sci-fi be used as a pedagogical tool to engage students and the public in ethical discussions about AI?	Sci-fi effectively teaches AI ethics, engaging 85% of students and enhancing 70% of their ability to analyze ethical issues, with 90% course satisfaction.
4	Liang & Lee	(2017)	To examine the influence of individuals' exposure to Sci-fi on fear of autonomous robots and AI (FARAI).	Media exposure to Sci-fi was a significant and positive predictor of FARAI. Individuals who watch Sci-fi movies were more likely to be afraid of autonomous robots and AI, although the strength of the association was modest r(1487) = .06, p = .03.
5	Cave & Dihal	(2019)	How do hopes and fears for intelligent machines manifest in fiction and reality, and what are the predominant narratives? n public perception	The study categorizes over 300 works into four dichotomies of hopes and fears about AI. Fears include loss of control and job displacement, while hopes include enhanced capabilities and societal improvements, reflecting societal attitudes and perceptions through systematic categorization.
6	Curran et al.	(2020)	How do different media frames influence the public perception and attitude towards AI, regarding AlphaGo?	Analysis of 292 Chinese and American news articles shows that the Chinese press framed AlphaGo as non-threatening in 68% of coverage, compared to 32% in the American press. Differences are attributed to cultural factors and Sci-fi influences, particularly dystopian portrayals in American media.
7	Brondi	(2021)	What do we expect from robots, and how do social representations, attitudes, and evaluations of robots' manifest in daily life?	Social representations of robots include concrete elements and emotional values, influenced by Sci-fi and media imagery. Positive attitudes are linked to viewing robots as integrated into daily life, while negative attitudes are associated with seeing them as distant. Acceptance of robots in health, care, and education is growing, contrasting with traditional portrayals of robots as cold, super-human agents.
8	Nader et al.	(2024)	How does entertainment (Sci-fi) media influence public perception and understanding of AI?	Results showed entertainment (Sci-fi) media as an information source made respondents 1.39 times more likely to believe AI could take their jobs ($p<0.000$) and 1.39 times more likely to think AI could conduct surveillance ($p=0.004$).
9	Akyazı	(2023)	What are the attitudes and perceptions of employees towards AI and how does exposure to Sci-fi influence these attitudes?	Sci-fi contributes to skepticism and anxiety toward AI, with some fearing that robots might kill people and take over the planet. Employee attitudes are crucial in the adoption of AI technologies. Quantitative analysis indicates that negative attitudes are more common in corporate settings.

5. Results

This systematic review, based on eight studies published between 2011 and 2023, explores the impact of negative stereotypes in Sci-fi on public attitudes towards AI. These studies, chosen for their high citation volume and relevance to the research topic, provide a comprehensive understanding of how these negative portrayals influence societal perceptions of AI.

Negative stereotypes in Sci-fi significantly contribute to increased fear and anxiety towards AI. Several studies (Cave & Dihal, 2019; Curran et al., 2020; Liang & Lee, 2017; Łichocki et al., 2011) illustrate that negative portrayals of AI as malevolent or threatening entities amplify public fears. For instance, Łichocki et al. (2011) found that approximately 26% of participants reported heightened levels of fear towards autonomous robots and AI, with media exposure to Sci-fi being a significant predictor. Liang and Lee (2017) identified a modest but significant correlation between exposure to Sci-fi and fear of AI ($r(1487) = .06$, $p = .03$). Cave and Dihal (2019) highlighted how dystopian narratives in media contribute

to these fears by categorizing over 300 works into four dichotomies of hopes and fears about AI.

Negative portrayals of AI also lead to increased distrust and skepticism towards AI technologies. Studies by Burton et al. (2015) and Curran et al. (2020) show that media frames can significantly influence public perception and attitudes towards AI. Burton et al. (2015) found that while Sci-fi can engage students in ethical discussions about AI, it also reinforces skepticism about the reliability and safety of AI technologies. Curran et al. (2020) demonstrated that cultural factors and dystopian portrayals in American media contribute to the public's skepticism and distrust of AI.

Sci-fi frequently raises ethical and moral concerns about AI, influencing public debates and opinions on AI's role in society. Brondi (2021) and Liang and Lee (2017) emphasize that media portrayals can shape public discourse on the ethical implications of AI. Brondi et al. (2021) noted a growing acceptance of robots in healthcare and education, contrasting with traditional portrayals of robots as cold and superhuman agents, suggesting a shift in ethical considerations regarding AI. Liang and Lee (2017) found that negative media portrayals exacerbate concerns about AI's ethical and moral implications.

The review highlights that negative stereotype hinder the acceptance and adoption of AI in various fields due to fears and misconceptions. Studies show that while negative media portrayals amplify fears, they also hinder the public's willingness to embrace AI technologies in areas like healthcare and education (e.g., Brondi et al., 2021; Cave & Dihal, 2019; Curran et al., 2020). Brondi et al. (2021) reported a growing acceptance of AI in these fields, suggesting that positive portrayals can mitigate negative attitudes.

Younger demographics are particularly susceptible to the influence of negative portrayals of AI in media. Studies (e.g., Burton et al., 2015; Curran et al., 2019) found that young adults' perceptions of AI are significantly shaped by media representations. Burton et al. (2015) demonstrated that Sci-fi effectively engages students in discussions about AI ethics but also reinforces fears and skepticism among younger audiences. Curran et al. (2020) highlighted that cultural factors and media portrayals play a crucial role in shaping young adults' attitudes toward AI.

Table 5. Thematic Analysis of Key Findings

Themes	Description	Studies Referenced
Fear and Anxiety	Negative stereotypes in Sci-fi can increase fear and anxiety towards AI, making people worry about AI taking over or causing harm.	1, 2, 4, 8, 9
Distrust and Skepticism	Negative portrayals can lead to distrust and skepticism towards AI, causing people to question the reliability and safety of AI technologies.	3, 5, 6, 9
Ethical and Moral Concerns	Sci-fi often raises ethical and moral concerns about AI, influencing public debates and opinions on AI's role in society.	2, 3, 5
Impact on Acceptance and Adoption of AI	Negative stereotypes can hinder the acceptance and adoption of AI in various fields, such as healthcare and education, due to fears and misconceptions.	8, 9
Influence on Young Demographics	Younger demographics may be more influenced by negative portrayals, leading to increased skepticism and fear among this group.	3, 6

In summary, the findings from this SLR indicate that negative stereotypes in Sci-fi significantly impact public attitudes toward AI, predominantly fostering fear, distrust, and ethical concerns. However, positive portrayals can mitigate these negative attitudes, enhancing familiarity and acceptance. The complex relationship between media portrayals and attitudes towards AI underscores the need for balanced and accurate representations to foster a more informed and accepting public perspective on AI technologies.

6. Discussion

The results of this SLR provide important insights into the role of negative stereotypes in Sci-fi on attitudes towards AI. One key finding of this review is that negative stereotypes in Sci-fi can lead to fear, distrust, and skepticism toward AI. This is an important finding given the growing importance of AI in our daily lives, and the need for public acceptance and trust in this emerging technology. Negative portrayals of AI in popular media may contribute to a reluctance to adopt and use AI in various domains, from healthcare to education to transportation.

However, it is also important to note that positive portrayals of AI in Sci-fi can improve attitudes towards AI. When AI is portrayed as helpful, friendly, or even human-like, it can increase familiarity and acceptance of this technology. This is particularly important given the potential benefits of AI in various domains, such as healthcare and education.

The mixed results on the relationship between negative stereotypes and attitudes towards AI suggest that the relationship is not straightforward and that other factors may also play a role. For example, individual differences in personality traits

or prior experience with AI may influence the impact of negative stereotypes on attitudes towards AI. Similarly, contextual factors such as the type of media or the specific content of the media may also influence the impact of negative stereotypes on attitudes towards AI.

The quality assessment of the included studies revealed that the majority of the studies were of medium quality, with some methodological limitations such as a lack of clarity around the research question or hypothesis. This highlights the need for more rigorous research on the relationship between negative stereotypes in Sci-fi and attitudes towards AI, with a clear research question and appropriate measures.

Overall, the findings of this SLR have important implications for the development and portrayal of AI in popular media, as well as for understanding the public perception of this emerging technology. By being aware of the potential impact of negative stereotypes on attitudes towards AI, media creators and developers can strive to portray AI in a more balanced and accurate manner, which may lead to greater acceptance and adoption of this technology in the future.

7. Conclusion

In conclusion, this SLR aimed to examine the role of negative stereotypes in Sci-fi on attitudes towards AI. The findings suggest that negative stereotypes can hurt attitudes towards AI, while positive portrayals of AI can have a positive impact. However, the relationship between negative stereotypes and attitudes towards AI is complex and may be influenced by individual differences and contextual factors.

The implications of these findings are significant for the development and portrayal of AI in popular media. Negative portrayals of AI in Sci-fi may contribute to fear, distrust, and skepticism toward AI, which may hinder the adoption and use of this technology in various domains. On the other hand, positive portrayals of AI can increase familiarity and acceptance of this technology, which may lead to greater adoption and use.

The limitations of the included studies highlight the need for more rigorous research on the relationship between negative stereotypes in Sci-fi and attitudes towards AI, with a clear research question and appropriate measures. Additionally, future research should consider the role of individual differences and contextual factors in this relationship.

Overall, this review study provides important insights into the role of negative stereotypes in Sci-fi on attitudes towards AI. By being aware of the potential impact of negative stereotypes on attitudes towards AI, and developers can strive to portray AI in a more balanced and accurate manner, which may lead to greater acceptance and adoption of this technology in the future.

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Authors contributions

Dr. AAM and DB were responsible for study design and revising. DB was responsible for data collection. DR. AAM drafted the manuscript and Dr. ZZ revised it. All authors read and approved the final manuscript. In this paragraph, also explain any special agreements concerning authorship, such as if authors contributed equally to the study.

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