

Effect of Racial Homophily on AI Anthropomorphism and News Anchor Credibility

Qiyu Long *

College of Asia Pacific Studies, Ritsumeikan Asia Pacific University, Beppu, Japan

* Corresponding Author Email: lo20q6bt@apu.ac.jp

Abstract. This study explores the influence of anthropomorphism and racial homophily on audience trust in Artificial Intelligence News Anchors (AINAs) in the context of contemporary journalism. Utilizing a comprehensive between-groups experiment, participants were recruited online and presented with audiovisual news clips featuring AINAs. The research investigates the relationships among anthropomorphic cues, viewers' perceptions of racial homogeneity, and the trustworthiness of news conveyed by these AI entities. Findings indicate a significant positive correlation between visual cues and news trustworthiness, while anthropomorphic features exert a moderating effect. However, the study highlights limitations in sample representativeness and generalizability across diverse cultural contexts, suggesting that results may not apply universally to all AINA viewers. The study calls for further exploration of the interaction between racial traits and AI technology, emphasizing the need to consider personal attributes and the evolving landscape of AI in journalism. By advancing the theoretical framework of human-AI interaction, this research contributes valuable insights into the intersection of technology, media, and audience perception.

Keywords: Human-AI interaction; AI news anchors; Anthropomorphism; News trustworthiness; Racial homophily.

1. Introduction

With the creative breakthroughs in the field of artificial intelligence (AI) in 2017 in the application of large language models, algorithms such as Transformers, learning frameworks such as generative adversarial network (GAN), etc. pragmatically extend the scope of AI implementation. Attempts to extend the applicability of AI in various fields have thus proliferated. After several rounds of rapid evolution, Generative AI applied to news broadcasting is also maturing, which led to the birth of AI news anchors. In 2018, Xinhua News Agency, China's official media, collaborated with Sogou, a Chinese search engine company, to develop the world's first artificial intelligence news anchor (AINA) [1]. Following this, globally, and primarily in Asia, news broadcasting has introduced artificial intelligence content-generated news anchors with similar functions, including India, Indonesia, Taiwan, Malaysia, South Korea, and Kuwait in the middle east, and this list may continue to grow [2-3]. The current research on AINA either expresses concerns about the risk of AI technology being used for deepfake in the field of journalism, or explores the general relationship between anthropomorphism and continuance intention, or provides more of a general overview based on other Human-AI Interaction phenomena like chatbots, smart home assistants or virtual influencers [4-7]. Different perspectives of anthropomorphism have defined it as (1) a tendency, (2) a technological stimulus, (3) a perception, (4) a process, and (5) an inference [8]. The second perspective is adopted here, which argues that anthropomorphism is to be understood as a technological stimulus with human likeness, such as human appearance or voice. Based on a content-generating AI audiovisual complex almost identical as its predecessor technology, AINA initially attempts to recreate the identity structure of real anchors through its high degree of anthropomorphism. This paper seeks to provide an ethnographic examination of the audience for this technology from a micro perspective, discussing the association between the racial homophily of the audio-visual integrative anthropomorphic elements in the application of AINAs and the viewer's assessment of the credibility of the news. For such purpose, this study adopts the concept of racial homophily derived from social identity theory and tries to modify the model of Anthropomorphic Cues and Satisfaction of Smart Home Assistants

(ACSSHA) and the adaptation of the Theory of Interactive Media Effects for the study of Human-AI Interaction (HAI-TIME model) based on the unique situation of AINAs [9-11]. This research is expected to investigate the comprehensive merits of media, AI technology and journalism realm, strengthens the understanding of the use of AI generation technology in the field of journalism, provides certain reference value for their coordinated development, and further improves the theoretical system related to AI journalism, while providing feedback and adding to previous explorations of technological perspectives in such field.

2. Literature Review

AINAs' representation relies heavily on generative artificial intelligence (GAI) for the automatic synthesis of text, audio and visual images, and it is possible to choose what kind of avatar to create or imitate as needed. After the provision of original data and text prompts for training sets, it is inevitable that images with humanoid or personification characteristics – gendered, racial, age-related, occupational, hierarchical and so on – will be generated, especially when creating anthropomorphic images or imitating existing anchors in AINAs applied in different cultural contexts. The anthropomorphic dimension of AI may exist in different forms. For example, some GPTs rarely reinforce their external features marked by visual and identity cues, but chatbots may also pay attention to internal features such as their social presence [4, 11].

2.1. Social Identity and Racial Homophily (RH)

The concept of race has been discussed in different academic disciplines, and a number of conclusions have emerged from the evolution, challenge and eventual deconstruction of this concept. The concepts of culture and ethnicity, which are also used to categories or cluster human beings, have also been subjected to prolonged re-examination. The current scholarly consensus is that race serves more as a diminished version of past biological theories and social constructs based on physical appearance (especially skin color). In contrast, ethnicity focuses on socially structured shared group membership, behavioral patterns, language, geography, etc., whereas culture emphasizes the unspoken common rules of the group [12-13].

However, the impact of variations in human appearance on behavior and perception remains an integral part of visual information in the public domain, especially in an increasingly globalized and diverse world [14-15]. The Social Identity Theory posits that group membership is incorporated into our self-concept, which in turn affects our views of other members and non-members of our groups. [16-17]. The self-categorization theory supplements the application of identity, proposing that categorizing the self and others involves perceiving them according to how closely they match the prototypes of the relevant groups, rather than according to their unique personal characteristics [18-19]. The enhanced ease of communication between individuals with shared categories thus plays a role in the attributes that both individuals possess in common, such as their class background, their habitus, and their racial attributes of appearance [3, 20-21].

The concept of racial homophily has been employed to elucidate the mutual preferences among individuals who are members of socially salient categories, which may impact the formation of affective friendships and social networks [22-23]. Wimmer and Lewis' (2010) article distinguishes between the concepts and variables racial homophily and racial homogeneity. In order to clarify the ambiguity of whether racial homophily is used to denote either social behaviors or the racial composition of the network as a result of such behaviors, or both, they make the suggestion that homophily be used in relation to the formative mechanism of the actor's preferences, and that homogeneity describes the specific outcomes of racial composition [23]. The neuroimaging results of Ficco et al. lend support to the notion that specific visual stimuli may exert an influence on the perception and recognition of faces belonging to other racial groups [14]. This provides an explanation for the phenomenon known as the 'other-race effect'. Racial homophily (RH) is thus defined in this paper as a variable representing the racial traits that are anchored or triggered by

appearance homogeneity, as opposed to those that are different, as demonstrated between the anticipating participants and AINAs.

2.2. Anthropomorphism and AINAs

Xue et al. (2022) conducted a comparative experiment on gender and the degree of anthropomorphism in sound and image and found that the appearance of virtual (non-humanoid) women and anthropomorphic voices were more popular within the audience through the generalization effect, while failed to control for the known variables of the audience's recognition of the virtual news anchors as already-known figures [23]. As demonstrated by Huang and Yu (2023), the relationship between satisfaction, continued intention, and anthropomorphism is a complex one [8]. Widely acknowledged, a higher degree of anthropomorphism can indirectly evoke a stronger willingness to use AI-related technology in journalism. However, this study suggests reducing the degree of anthropomorphism to achieve a higher affinity based on the negative correlation between perceived anthropomorphism and continued viewing intention in women audiences. This is consistent with the recommendations of Xue et al., but despite suggesting the need to identify more media combinations, this study also failed to investigate in detail the potential impact of the anthropomorphic characteristics of AINA. In a study published in 2024, Wan et al. investigated the moderating influence of racial homogeneity on the regulation of audience engagement by the anthropomorphism of virtual anchors. The findings indicate that the influence of anthropomorphism is contingent upon the degree of racial homogeneity [22]. Racial homogeneity is considered to be a psychological shortcut for decision-making.

2.3. News Trustworthiness (NT)

Assessing news credibility requires participants to perform key skills, including understanding the context and purpose of the news, assessing the strength and quality of evidence, distinguishing between fact and opinion, and identifying bias, which is noted as a key indicator that suggests that readers should discern the veracity of the news from multiple perspectives [24-25].

2.4. Adaptation of ACSSHA Based on HAI-TIME model and AINAs' Situation

In the HAI-TIME model, Sundar (2020) posits that predictors exert an influence on outcomes (user experience and trust in AI medium) via two distinct paths (cues and actions). The manifestation of the interface, the attributes of the algorithm, and the affordances of the AI medium all motivate different actions and cues. The cues, in conjunction with prior experience, in turn, act as a moderator variable called Cognitive Heuristics. These variables are involved in the perception of the AI medium, leading to the formation of trust as the outcome [8]. AINAs are not directly connected to their audience via the front end and are less interactive than other forms of AI applications, as they focus on text input and image generation. It can therefore be argued that the cue route of AINAs is similar to the classical communication theory of signs, whereby cognitive heuristics are triggered by non-interactive interface instructions. Such heuristics consequently inform users' psychological responses to AI media, including NT [3].

Xie et al. (2023) posited that the utilization of anthropomorphism had become a fundamental design principle due to the growing acceptance of AI [11]. As previously stated, anthropomorphism can be interpreted from a multitude of perspectives and is conceptualized here as a technological stimulus. This technological stimulus emerges from the inclination to imbue non-human entities with human characteristics, motivations, intentions, or emotions, which encompasses not only physical appearance but also psychological, personality, emotional, and other attributes [11, 26]. Accordingly, Xie's model of Anthropomorphic Cues and Satisfaction of Smart Home Assistants (ACSSHA) classifies the anthropomorphic features of smart home assistants (SHAs) into visual cues (VC, degree of anthropomorphism: having a high-precision humanoid or more similar to a machine), identity cues (IC, personal assistant or smart speaker), emotional cues (EC, humorous or not), and auditory cues (AC).

The distinction between AINAs and SHAs lies in their interaction with the audience, the format of the interaction interface, the extent to which they are integrated into the user's daily life, and the character of the interaction scenarios, which may be either private or public. It is therefore necessary to clarify how these anthropomorphic cues are embodied in the specific representations of AINAs. This paper classifies the cues into two categories: direct cues, comprising visual and auditory cues, and indirect cues, which include identity and emotional cues. The identity cues of AINAs were typically defined as virtual newscasters from the countries in which they were developed. Participants' perception of RH was expected to be based on several other anthropomorphic cues in addition to EC. The VC is presented in a manner that is the most intuitive and accessible for the viewer, with signs that represent the appearance of the designed image of each AINA. These include, but are not limited to, gender orientation, racial facial features, dress code, posture, and so forth. The AC is conveyed through the narrated speech of the AINA, which is furnished by the prototype announcer as a training corpus for the generation of synthetic speech that exhibits human-like characteristics. The speech exhibits several characteristics that are commonly associated with humans, including voice intonation, gender characteristics, and local accent. In particular, accents may be considered to be distinctly human features; these two factors can be described as social indexes, which are predicted to potentially influence how individuals utilize technology, as proposed by Zellou et al [27]. The EC in the ACSSHA model applies to a much lesser extent to the context of news anchors, as AINAs do not form personal relationships with their audiences in the way that SHAs do. Nevertheless, this indicator must be employed in conjunction with the NTS, which stipulates that the use of emotional language may influence the neutrality of a statement and, consequently, the NT. Similarly, the IC of the AINAs is relatively consistent in that they are all configured to present themselves as professional broadcasters. This is also evidenced in NTS, where the status of a journalist or expert in the field affects listeners' perceptions of the news source (NS), as shown in figure 1.

Based on these studies, the hypothesis is as follows.

H1(a): for the group with low racial homogeneity, strong anthropomorphism positively correlates to viewers' NT.

H1(b): for the group with low racial homogeneity, strong anthropomorphism negatively correlates to viewers' NT.

H2(a): Strong anthropomorphism positively moderates audience recognition of racial homogeneity, exhibiting high RH.

H2(b): Strong anthropomorphism reverse moderates audience recognition of racial homogeneity, exhibiting low RH.

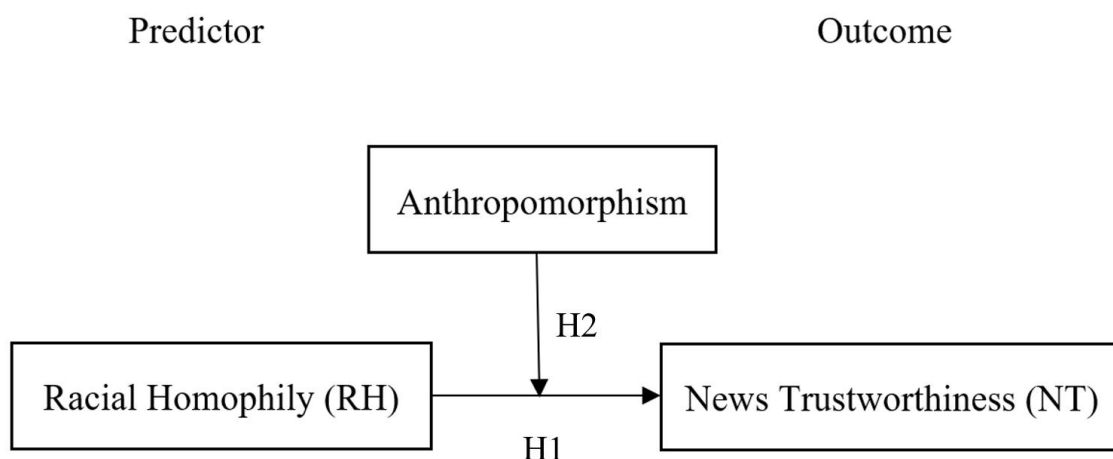


Fig 1. The Theoretical Framework.

3. Materials and Methodology

3.1. Participants:

We designed a comprehensive study of a between-groups experiment in which participants were recruited through an online market research platform called Wenjuanxing and were grouped into experimental control groups based on follow-up responses. The studies were divided into three sections, and after signing a consent form, subjects were asked to provide non-private demographic characteristics such as gender, age, education level, ethnicity, primary language, English proficiency, and racial background in the first section.

3.2. Material and Stimulus:

In the second section, participants were presented with an audiovisual news video clip showing an AI anchor broadcasting. Participants were assigned to different groups by randomly choosing the answer to an assigned question and were asked to watch one of three different AINA video clips assigned to them accordingly.

The three video clips were controlled to be around 15 seconds in length and were approximately two broadcasts in length. The broadcasters were three AINAs (Sana, Lisa, and AI News Anchor from Xinhua, shortly referred to as Xinhua) developed in India and China, respectively, and have been already deployed operational on the media platforms Aaj Tak, OTV, and Xinhua. To ensure that any media or political bias does not become an interfering factor, the channel labels of these media outlets have been blurred in advance. All three anchors broadcast in English, but with varying degrees of regional accents. Appearance-wise, Sana, and Lisa were both set as women, but the former's dress, makeup, hairstyle, and other visual elements were more contemporary, while the latter took on a more Indian ethnic design in these regards. Xinhua was the only male announcer figure among the three AINAs, with an East Asian face and suited attire. The only portion of the appearances of Lisa and Xinhua was the upper body, but Sana shows a fuller body, thus making it easier to show his modern attire. Lisa and Sana use a studio-like background; however, Xinhua uses a neon light model of the Earth background with more sci-fi cues. These differences are not expected to affect the independent variable RH, as shown in figure 2.



Fig 2. From left to right: Sana, Lisa, and Xinhua.

3.3. Instruments:

In the third section, respondents were asked to self-report on a total of 27 questions based on the video footage provided in the second section. These questions were divided into three panels; the six questions in the first panel examined subjects' perceptions of racial homogeneity and related perspectives, and these responses, along with demographic information and the racial traits of the AINAs, would be viewed together as the basis for the independent variable of RH; the five questions in the second panel used ratings in the form of a Likert scale to examine subjects' perceptions of the anthropomorphism of the AINAs; and the final panel adapted Luo et al.'s (2022) News

Trustworthiness Scale (NTS), incorporating the following elements: Factual Basis (FB), Statement Neutrality (SN), News Source (NS), Content Quality (CQ) and Manuscript Quality (MQ). These were combined into a single assessment. The subsequent feedback received by the researchers indicated that FB, SN, NS, and CQ are all categories of relatively high performance and importance. Consequently, these categories have been selected as the assessment elements for the credibility of AI news broadcasting in this paper. Given the distinctive nature of AI-driven news broadcasting, MQ is also regarded as a potential factor to be taken into account in assessing the extent to which the recurrence of reporting on events may influence perceptions of credibility though it shows relatively low importance and low performance [25].

4. Results

A total of 133 responses were collected by Wenjuanxing from mainland Chinese residents, of which 63.16% (84) were female and 36.84% (49) were male. The age of the respondents was mainly concentrated in the 18-40 age group (108 in total), with more than half of the total number of respondents in the 31-40 age group (55.64%, 74), 12 people in the 41-50 age group (9.02%), and only three people in the 51 age group and above. The vast majority of respondents had a bachelor's degree or equivalent (115, 86.47%). All participants were currently residing in China, identified themselves as East Asian Chinese, and were native speakers of Chinese. In response to the question regarding prior exposure to AINAs, the majority (92) indicated that they had heard of AINAs but had not acquired detailed knowledge about them. The next highest number of groups (30) reported that they had learned about AINAs in detail. Finally, 11 participants stated that they had never heard of AINAs. A final group of 120 individuals with low racial homogeneity was selected for testing Hypothesis 1, while Hypothesis 2 was tested using the full data subgroup.

4.1. Validity Tests

The validity study is employed to assess the reasonableness and meaningfulness of the ACSSHA research items. In the case of the validity analysis of anthropomorphism ($\alpha=0.767$, $0.8>\alpha>0.7$), factor analysis is utilized as a data analysis method. This is achieved through the KMO value, the factor loading coefficient value, and other indexes, which are employed to conduct a comprehensive analysis to verify the validity level of the data. The KMO value is employed to assess the suitability of information extraction, the common degree value is utilized to exclude implausible research items, and the factor loading coefficient is used to quantify the correlation between the factors and the questions. As can be observed in the aforementioned table, all of the research items correspond to the common degree value, which is greater than 0.4. This indicates that the information contained within the research items can be effectively extracted. Furthermore, the KMO value is 0.702, which is greater than 0.6, indicating that the data can be effectively extracted is summarized in table 1 and table 2.

Table 1. Validity Tests for Anthropomorphism.

Variable (Anthropomorphism)	Factor Loading			
	F1	F2	F3	F4
VC	0.981	0.055	0.094	0.160
EC	0.106	0.266	0.933	0.220
IC	0.059	0.941	0.259	0.209
AC	0.183	0.214	0.220	0.934
KMO	0.702			
Bartlett's Test of Sphericity	109.887			
p	0.000			

The validity of NTS ($\alpha=0.876$, $\alpha>0.8$) was verified using KMO and Bartlett's test, as can be seen from the table above. The KMO value was found to be 0.895, which is greater than 0.8, indicating that the research data is highly suitable for information extraction.

Table 2. NTS's KMO & Bartlett's Tests.

KMO		0.895
Bartlett's Test of Sphericity	Approximate Chi-Squared	649.841
	<i>df</i>	120
	<i>p</i>	0.000

4.2. Hypothesis Testing

A total of 85.71% of the sample indicated that AINA reflects the appearance of racial groups, while only 19 participants held the opposite view. In the group controlling for high racial RH, 76.92% of the population expressed a positive perception of AINA as similar to their facial features. In contrast, this index was only 40% in the low RH group. The following table illustrates the degree of recognition of each anthropomorphic cue in the low RH group. It can be observed that direct cues (AC, VC) are significantly higher than non-direct cues (IC, EC) as shown in figure 3 and table3.

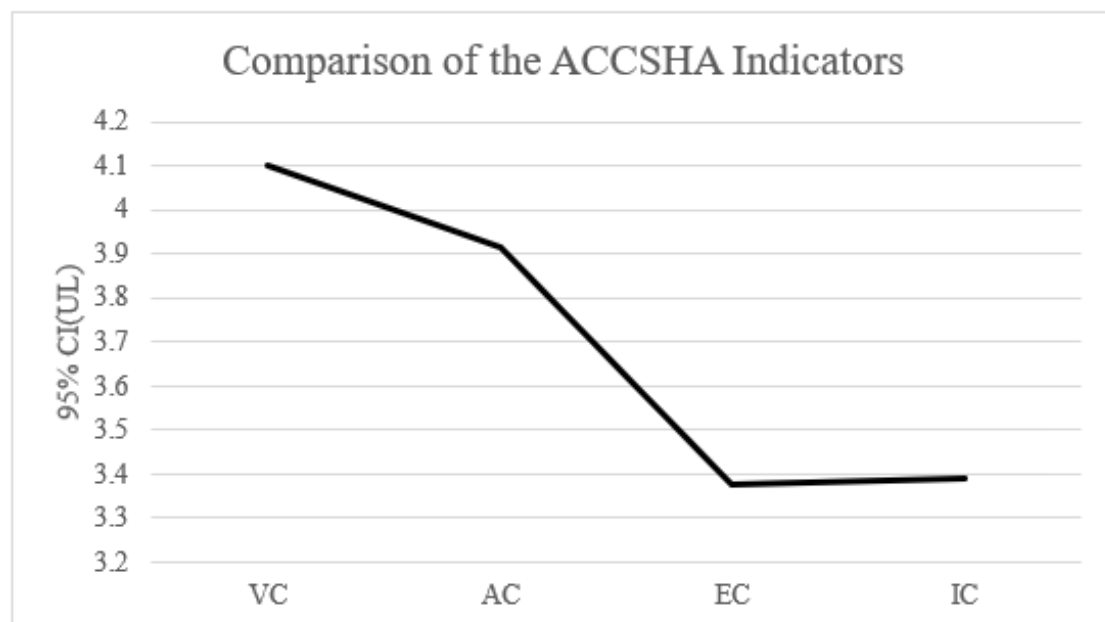


Fig 3. Comparison of the ACCSHA Indicators among low RH group.

Table 3. Pearson Correlation of Anthropomorphism among Different RH Groups.

VC	1				
EC	0.241**	1			
IC	0.168	0.544**	1		
AC	0.362**	0.487**	0.464**	1	
RH	0.071	0.000	0.039	-0.009	1

* $p < 0.05$ ** $p < 0.01$

A correlation analysis was conducted to investigate the correlation between VC, EC, IC, AC, and RH groups, respectively. The strength of the correlation was indicated by the Pearson's correlation coefficient. The specific analyses demonstrate the following:

The correlation between RH groups and the four variables (VC, EC, IC, and AC) was investigated. The correlation coefficients were found to be 0.071, 0.000, 0.039, and -0.009, respectively, all of which were close to 0. Furthermore, the p-values were all greater than 0.05, indicating that there is no significant correlation between the total of four items of anthropomorphism and RH. Nevertheless, fluctuations in the values of the different cue correlations can be observed, suggesting that further in-depth studies may reveal a more significant role is summarized in table 4.

Table 4. Coefficients for NTS.

Variable	M $\pm$ SD	Variance	95% CI(UL)	CV	Coefficient
FB1	4.017 $\pm$ 0.622	0.386	4.128	15.473%	4.0523
FB2	3.958 $\pm$ 0.883	0.780	4.116	22.308%	
FB3	3.742 $\pm$ 0.957	0.916	3.913	25.577%	
SN1	3.858 $\pm$ 0.863	0.744	4.013	22.363%	3.9549
SN2	3.908 $\pm$ 0.810	0.655	4.053	20.714%	
SN3	3.525 $\pm$ 0.961	0.924	3.697	27.266%	
SN4	3.883 $\pm$ 0.972	0.944	4.057	25.023%	
NS1	3.700 $\pm$ 0.975	0.951	3.875	26.360%	3.9535
NS2	3.917 $\pm$ 0.826	0.682	4.064	21.086%	
NS3	3.858 $\pm$ 0.843	0.711	4.009	21.852%	
NS4	3.683 $\pm$ 1.021	1.042	3.866	27.710%	
CQ1	3.775 $\pm$ 0.983	0.966	3.951	26.033%	4.0587
CQ2	3.958 $\pm$ 0.782	0.612	4.098	19.759%	
CQ3	3.892 $\pm$ 0.906	0.820	4.054	23.270%	
CQ4	3.967 $\pm$ 0.925	0.856	4.132	23.325%	
MQ	3.500 $\pm$ 0.879	0.773	3.657	25.122%	3.657

As illustrated in the table above, even for each of the specific indices that have been categorized in the NT, the groups controlled for low RH exhibited disparate responses, with considerable deviation values. This phenomenon is further elucidated in the accompanying table. To investigate the potential correlation between anthropomorphism and NT, Spearman's rank correlation coefficient was employed, as evidenced in the subsequent table 5.

Table 5. Spearman's rank correlation coefficient of Anthropomorphism Cues and NT.

	VC	AC	EC	IC
FB1	0.298**	0.269**	0.293**	0.229*
FB2	0.364**	0.411**	0.408**	0.328**
FB3	0.315**	0.441**	0.288**	0.398**
SN1	0.289**	0.150	0.131	0.085
SN2	0.242**	0.348**	0.304**	0.302**
SN3	0.162	0.263**	0.119	0.113
SN4	0.306**	0.396**	0.204*	0.172
NS1	0.253**	0.471**	0.292**	0.290**
NS2	0.303**	0.296**	0.239**	0.348**
NS3	0.271**	0.349**	0.189*	0.209*
NS4	0.239**	0.142	0.217*	0.121
CQ1	0.246**	0.392**	0.111	0.119
CQ2	0.339**	0.373**	0.185*	0.324**
CQ3	0.317**	0.227*	0.163	0.045
CQ4	0.251**	0.293**	0.148	0.030
MQ	0.191*	0.321**	0.272**	0.271**

* $p < 0.05$ ** $p < 0.01$

As illustrated in the above table, correlation analysis is employed to examine the interrelationships between VC, AC, EC, IC, and FB1, FB2, FB3, SN1, SN2, SN3, SN4, NS1, NS2, NS3, NS4, CQ1, CQ2, CQ3, CQ4, MQ, these 16 items. The strength of these correlations is indicated by the Spearman's correlation coefficient. Specific analyses indicate that:

The correlation coefficients between VC and NTS of 15 items all showed significance in the correlation coefficients table presented, all of which are greater than 0, implying that there is a positive correlation between VC and NTS's total of 15 items. At the same time, VC does not show significance with SN3 item 1 and the value of correlation coefficient is close to 0. Similarly, all of the 14 terms

between AC and FB1, FB2, FB3, SN2, SN3, SN4, NS1, NS2, NS3, CQ1, CQ2, CQ3, CQ4, MQ show significant and positive correlations, but it will not be significant with 2 terms of SN1, NS4, and the value of correlation coefficient is close to 0, which means that AC does not have a correlation relationship with these two terms.

The EC and IC exhibited suboptimal performance, with the former failing to demonstrate a notable and uncorrelated relationship with a total of five items from SN1, SN3, CQ1, CQ3, and CQ4, and the latter similarly failing to show a significant and uncorrelated relationship with a total of seven items from SN1, SN3, SN4, NS4, CQ1, CQ3, and CQ4.

Thus, the H1(a) was supported, whereas H1(b) was not. The moderating effect of anthropomorphism cues was significant; however, hypothesis H2 was not supported overall because RH did not demonstrate a valid correlation with anthropomorphism cues.

5. Discussion

The advent of Artificial Intelligence News Anchors (AINAs) marks a significant milestone in the evolution of journalism, driven by advancements in generative artificial intelligence. This study sheds light on the multifaceted relationships between anthropomorphism, racial homophily, and audience perceptions of news credibility. Through a systematic examination of audience responses to AINAs, we uncovered that the visual and auditory characteristics of these AI entities influence viewers' trust in the news they present. Specifically, the findings indicate that strong anthropomorphism positively correlates with the trustworthiness of news among audiences with low racial homogeneity.

The adoption of anthropomorphism as a technological stimulus highlights the nuanced dynamics of human-ion interaction (HAI), particularly in a media landscape increasingly populated by AI. While our results support existing theories regarding the role of visual cues in shaping perceptions of credibility, they also underscore the complexity of audience engagement with AINAs. Notably, while the study confirmed the anticipated relationship between anthropomorphism and trust, it also revealed that racial homophily did not significantly correlate with anthropomorphic cues, suggesting that audience recognition of racial traits may not be the only factor influencing trust in AI-driven news.

In conclusion, as the journalism industry continues to embrace AI technologies, understanding the intricate relationship between audience perceptions, anthropomorphic design, and racial considerations will be critical for fostering trust and credibility in AI-generated news. This research serves as a foundational step towards a more nuanced understanding of how AI can be effectively integrated into the media landscape while addressing the ethical and perceptual challenges that arise in this new era of journalism.

6. Conclusion

This study was conducted on a Chinese online platform with a relatively limited sample size, which raises concerns about the representativeness of the findings. Furthermore, the results cannot be generalized to all viewers who have been exposed to AINAs, and it is unclear whether similar outcomes would be observed in other cultural contexts. Furthermore, it is possible that other factors, such as an individual's level of education, prior exposure to AI, attitudes towards AI and knowledge of this technology, and other personal characteristics that were not measured in this study, may have influenced the understanding of, and response to, this experiment. The relationship between traditional television news broadcasts and streaming new media varies significantly between countries and regions. It is thus imperative to examine how news is consumed in each country and to determine whether any potential bias introduced by these differences in consumption patterns necessitates their exclusion from the results.

The scarcity of AINAs represents a limitation of this study. Additionally, the prevalence of AINAs in news broadcasts, which could not be controlled for variables, further complicates the analysis. Future research could expand the scope of AI avatars in news applications by examining the

interaction between racial/ ethnicity traits and AI technology, as well as the potential for algorithms to interact with human cognition through anthropomorphism. The technology is still in its infancy, and given the relatively unnatural voice and face, the Uncanny Valley effect may still exert an influence on viewers' attitudinal evaluations. It may therefore be beneficial to consider future developments in real time. In the meantime, it is evident that racial homogeneity cannot represent the sole criterion for group acceptance. The question of how this criterion can be applied to non-human avatar images remains to be explored.

References

- [1] Handley, L. (2018, September 11). The 'world's first' A.I. news anchor has gone live in China. CNBC.
- [2] Kaur, D. (2023). More countries across Asia are introducing AI news anchors: Here's a list. Tech Wire Asia. <https://techwireasia.com/2023/07/ai-news-anchors-and-which-countries-has-them/>.
- [3] Rogers, E. M., & Bhowmik, D. K. (1970). Homophily-Heterophily: Relational Concepts for Communication Research. *Public Opinion Quarterly*, 34(4), 523. doi:10.1086/267838.
- [4] Bohacek, M., & Farid, H. (2024). The making of an AI news anchor-and its implications. *Proceedings of the National Academy of Sciences of the United States of America*, 121(1), e2315678121. doi:10.1073/pnas.2315678121.
- [5] Huang, Y., & Yu, Z. (2023). Understanding the Continuance Intention for Artificial Intelligence News Anchor: Based on the Expectation Confirmation Theory. *Systems*, 11(9), 438. doi:10.3390/systems11090438.
- [6] Koles, B., Audrezet, A., Moulard, J. G., Ameen, N., & McKenna, B. (2024). The authentic virtual influencer: Authenticity manifestations in the metaverse. *Journal of Business Research*, 170, 114325. doi: 10.1016/j.jbusres.2023.114325.
- [7] Youn, S., & Jin, S. V. (2021). "In A.I. we trust?" The effects of parasocial interaction and technopian versus luddite ideological views on chatbot-based customer relationship management in the emerging "feeling economy". *Computers in Human Behavior*, 119, 106721. doi: 10.1016/j.chb.2021.106721.
- [8] Li, M., & Suh, A. (2022). Anthropomorphism in AI-enabled technology: A literature review. *Electronic Markets*, 32(4), 2245–2275. doi:10.1007/s12525-022-00591-7.
- [9] Sundar, S. S. (2020). Rise of Machine Agency: A Framework for Studying the Psychology of Human–AI Interaction (HAI). *Journal of Computer-Mediated Communication*, 25(1), 74–88. doi:10.1093/jcmc/zmz026.
- [10] Sundar, S. S., Jia, H., Waddell, T. F., & Huang, Y. (2015). Toward a Theory of Interactive Media Effects (TIME). In S. S. Sundar (Ed.), *The Handbook of the Psychology of Communication Technology* (pp. 47–86): Wiley.
- [11] Xie, Y., Zhu, K., Zhou, P., & Liang, C. (2023). How does anthropomorphism improve human-AI interaction satisfaction: a dual-path model. *Computers in Human Behavior*, 148, 107878. doi: 10.1016/j.chb.2023.107878.
- [12] Racial Equity Tools (n.d.). Racial Equity Tools Glossary.
- [13] Rizova, P., & Stone, J. (2010). Race, Ethnicity, and Nation. In P. Rizova & J. Stone (Eds.), *Oxford Research Encyclopedia of International Studies*: Oxford University Press.
- [14] Ficco, L., Müller, V. I., Kaufmann, J. M., & Schweinberger, S. R. (2023). Socio-cognitive, expertise-based and appearance-based accounts of the other-race' effect in face perception: A label-based systematic review of neuroimaging results. *British journal of psychology* (London, England: 1953), 114 Suppl 1, 45–69. doi:10.1111/bjop.12595.
- [15] Wimmer, A., & Lewis, K. (2010). Beyond and below racial homophily: ERG models of a friendship network documented on Facebook. *AJS; American journal of sociology*, 116(2), 583–642. doi:10.1086/653658.
- [16] Neighbors, C., Foster, D. W., & Fossos, N. (2013). Peer Influences on Addiction. In *Principles of Addiction* (pp. 323–331): Elsevier.

- [17] Turner, J. C., Willer, D., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1989). Rediscovering the Social Group: A Self-Categorization Theory. *Contemporary Sociology*, 18(4), 645. doi:10.2307/2073157.
- [18] Abrams, D. (2001). Social Identity, Psychology of. In *International Encyclopedia of the Social & Behavioral Sciences* (pp. 14306–14309): Elsevier.
- [19] Tajfel, H., & Turner, J. (2000). An Integrative Theory of Intergroup Conflict. In M. J. Hatch & M. Schultz (Eds.), *Organizational Identity* (pp. 56–65): Oxford University Press Oxford.
- [20] Carley, K. (1991). A Theory of Group Stability. *American Sociological Review*, 56(3), 331. doi:10.2307/2096108.
- [21] Wimmer, A., & Lewis, K. (2010). Beyond and below racial homophily: ERG models of a friendship network documented on Facebook. *AJS; American journal of sociology*, 116(2), 583–642. doi:10.1086/653658.
- [22] Wan, C., Lee, D., & Ng, P. (2024). The role of anthropomorphism and racial homophily of virtual influencers in encouraging low- versus high-cost pro-environmental behaviors. *Psychology & Marketing*, 41(8), 1833–1853. doi:10.1002/mar.22013.
- [23] Xue, K., Li, Y., & Jin, H. (2022). What Do You Think of AI? Research on the Influence of AI News Anchor Image on Watching Intention. *Behavioral sciences (Basel, Switzerland)*, 12(11). doi: 10.3390/bs12110465.
- [24] Wimmer, A., & Lewis, K. (2010). Beyond and below racial homophily: ERG models of a friendship network documented on Facebook. *AJS; American journal of sociology*, 116(2), 583–642. doi:10.1086/653658.
- [24] Ku, K. Y., Kong, Q., Song, Y., Deng, L., Kang, Y., & Hu, A. (2019). What predicts adolescents' critical thinking about real-life news? The roles of social media news consumption and news media literacy. *Thinking Skills and Creativity*, 33, 100570. doi: 10.1016/j.tsc.2019.05.004.
- [25] Luo, Y. F., Yang, S. C., & Kang, S. (2022). New media literacy and news trustworthiness: An application of importance–performance analysis. *Computers & Education*, 185, 104529. doi: 10.1016/j.compedu.2022.104529.
- [26] Epley, N., Waytz, A., & Cacioppo, J. T. (2007). On seeing human: a three-factor theory of anthropomorphism. *Psychological review*, 114(4), 864–886. doi:10.1037/0033-295X.114.4.864.
- [27] Zellou, G., Cohn, M., & Pycha, A. (2023). Listener beliefs and perceptual learning: Differences between device and human guises. *Language*, 99(4), 692–725. doi:10.1353/lan. 2023.a914191.