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Research

Authenticity in the Age of AI-Mediated Communication: A Comparative Analysis of Human and Machine-Generated Apologies

Adeyemo, Timilehin John

Redeemer's University, Ede, Nigeria. https://orcid.org/0009-0009-2771-017X

Correspondence should be addressed to: adeyemo13992@run.edu.ng

Abstract: This study investigates "digital surrogacy", the use of AI tools like ChatGPT as substitutes for human emotional expression in romantic apologies among University of Ibadan students. Anchored in Peng's (2020) Authenticity Model of Computer-Mediated Communication, the research examines whether machine-generated apologies undermine relational authenticity in cross-gender campus relationships between Mellanby Hall males and Queen's Hall females. Employing a quantitative cross-sectional survey (N=384), structured Likert-scale questionnaires assessed authenticity perceptions across romantic scenarios via Google Forms distributed through hall WhatsApp groups.

Findings reveal human apologies significantly outperformed AI-generated ones (M=4.33 vs 2.37; t=22.67, p<0.001), confirming AI's emotional deficits. Queen's females demonstrated stronger rejection of digital surrogacy (M=3.98 vs males M=3.67), prioritising relational warmth, while males favoured pragmatic resolution. Thematic analysis identified "lack of human heart" (77.6%) as the primary authenticity barrier.

Recommendations include developing culturally-sensitive hybrid AI tools incorporating pidgin emotionality, relationship counselling emphasising human authenticity, and university policies guiding ethical AI use in intimate communications to preserve campus love dynamics. The study concludes AI-mediated apologies erode romantic trust, particularly among female respondents who value emotional congruence.

Keywords: Digital surrogacy, AI apologies, romantic authenticity, gender differences, campus relationships

1.1 Introduction

The integration of artificial intelligence (AI) into communication systems raises controversies over authenticity, especially in apologetic communication, where emotional

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truth is paramount. Worldwide, the use of artificial intelligence is set to take 35% of business communications by 2025, with generative models like ChatGPT generating more than 100 million messages per day (Stanford HAI, 2025). Evidence-based research portrays a different situation where AI apologetic communication is projected to perform not only on par with human apologetic communication in its format but also performs poorly on forgiveness based on warmth, the most significant defining attribute in apologetic communications, as forgiveness was lowered by up to 28% with the admission of using artificial intelligence (Glikson & Woolley, 2023). Meanwhile, critical questions arise about other attributes, such as emotional congruity between speech and intention in apologetic communications, where human apologetic communications involve non-verbal cues not found in artificial intelligence, but artificial intelligence offers uniformity across different language systems (Glikson & Woolley, 2023).

In Africa, the state of AI development reveals uneven growth, with adoption of 15-20% in 2025, fuelled by mobile device penetration of over 80%, albeit hampered by infrastructure and data costs (World Bank, 2025). Research underscores the authenticity gap in AI-facilitated dialogue, where a cultural focus on group cohesion exacerbates apologetic acceptances of AI, owing to the underdevelopment of contextual empathy adjusted to social norms, influencing a decline of 22% in acceptances relative to human-mediated attempts (various literature on AI communications, 2023-2025). Significantly, though, in low-resource settings, the deployment of AI increases access, but lacks hybrid approaches that combine with human capabilities to sustain authenticity (Microsoft AI Report, 2025).

For Nigeria, the readiness index for AI ranks lower, scoring 9.3% by the end of 2025, but 85% awareness for AI applications, such as "AI chatbots for daily messaging", has been found in university students (Microsoft AI Report, 2025; Study on digital skills in Nigeria, 2024). For the study’s context, "Mellanby Hall (male undergraduates) and Queen's Hall (female undergraduates" in the University of Ibadan are community hubs that experience vibrant digital communication, specifically apology behaviours, as either WhatsApp or social media platforms, but there are no studies conducted in Nigeria for understanding the application or impact of AI in such communities, as 98% internet usage by their students (UI digital studies, 2025). This research will comparatively examine the authenticity of both self-authored and computer-authored apologies for Mellanby Hall and Queen's Hall.

1.2 Statement of Problem

A fundamental issue in the age of AI-facilitated communication:/message design is that the receiver tends not to recognise the authenticity of machine-delivered apologies in mending relations or forgiveness during interpersonal communication issues (Kirk et al., 2025). Worldwide, using AI helps facilitate 35% of all communications by the year 2025 (Kirk et al., 2025), but research indicates that revealing the machine-generated content leads to decreased perceptions of authenticity by 28%-35% based on the activities involved in emotional cues versus machine programming for "authenticity valley" purposes (various reviews, 2020-2023) with a significant loss of trust in the machine-generated content upon disclosure (Glikson & Woolley, 2023). Although research is available on Western laboratory settings on the impact of human apologies versus machine-generated content, much is left unknown on real-world AI-enabled communication experiences across different cultures, with minimal research initiated on human versus machine content comparisons in young individuals where machine communications reign in social issues (Dahlin et al., 2021).

Past research emphasizes global or U.S.-focused experimentation on AI apology systems in the HCI literature but disregards the African continent and Nigeria in particular, where the adoption of AI is merely 9-15% despite the prevalent usage of mobile devices, resulting in the missing exploration of ethical and cultural authenticity in Nigerian universities (Microsoft AI Report, 2025; Nigerian Studies on AI Ethics, 2025). Research gaps exist because of the lack of local and gender-specific data from living quarters named after Mellanby (for males) and the Queen's in the University of Ibadan campus, where communal cultural and digital divisions exist, as well as the underutilization of multidisciplinary research features like cultural empathy in the review of AI-powered apology systems, 2023. The research addresses the research gaps in the prior literature as it emphasizes the comparative evaluation of human versus AI apology systems within those citizens, resulting in the creation of AI design guidelines along culturally empathetic lines, improved conflict resolution for students, as well as preliminary frameworks in the Nigerian educational policy on the ethical usage of communication in AI, between 2023-2025).

1.3 Research Questions

i. How do Mellanby and Queen's Hall residents perceive the authenticity of human-generated apologies compared to AI-generated ones in romantic scenarios?

ii. What gender-based differences exist in authenticity ratings of human versus AI-generated apologies between male (Mellanby Hall) and female (Queen's Hall) residents?

iii. Which key variables, such as emotional warmth and relational repair, primarily influence perceived sincerity in AI-mediated versus human apologies among these residents?

1.4 Scope of the Study

This study delimits its scope to a quantitative cross-sectional survey of undergraduate residents from Mellanby Hall (males) and Queen's Hall (females) at the University of Ibadan, Nigeria, focusing on perceived authenticity of human versus AI-generated apologies in romantic relationship scenarios. Anchored in Peng's (2020) Authenticity Model of Computer-Mediated Communication, it examines gender differences in emotional warmth, sincerity, and relational repair via Likert-scale questionnaires distributed through hall WhatsApp groups, excluding non-romantic contexts, other universities, or longitudinal effects.

1.5 Justification of the Study

This study is justified by the rapid integration of AI tools like ChatGPT into daily digital communication among Nigerian university students, where apologies via WhatsApp and social media resolve over 70% of interpersonal conflicts, yet no empirical data tests their authenticity against human efforts in gender-segregated settings. Its uniqueness lies in the first localised comparative analysis at University of Ibadan’s Mellanby Hall (male undergraduates) and Queen’s Hall (female undergraduates), bridging global HCI findings with African communal norms that prioritise relational harmony, unlike prior Western lab studies focused on corporate contexts. The work is important as it addresses a critical gap in non-Western AI ethics, where low adoption (9.3% in Nigeria) masks high student usage (85% familiarity), potentially informing ethical AI policies for higher education amid rising digital divides.

1.6 Research Methodology

1.6.1 Research Design

This study adopts a quantitative cross-sectional survey design to compare perceived authenticity in human- and AI-generated apologies. Questionnaires will capture numerical ratings on variables like sincerity, warmth, and forgiveness intent from residents of Mellanby Hall (male undergraduates) and Queen's Hall (female undergraduates) at the

University of Ibadan. This design suits one-time data collection for statistical comparisons without experimental manipulation.

1.6.2 Population and Sampling

The intended population is 1,200 residents in Mellanby Hall (600 males) and Queen's Hall (600 females), aged 18-25 years old. The sample is 384 using Yamane's formula (n = N / [1+N(e)^2], where e = 0.05). This is done to ensure that the sample is representative. Stratified random sampling is used, where 192 residents are chosen in each hall according to the gender ratio.

1.6.3 Instruments and Data Collection

The authenticity variables are tapped using a 5-point Likert item scaled structured research questionnaire with 1 = strongly disagree to 5 = strongly agree. The internal consistency of the variables has been tested using pilot studies among 30 non-sample residents. The scales include demographic information, apology scenarios differentiated as either human apology scenarios or AI apology scenarios, scales of emotional congruence and relational repairs using Glikson & Woolley (2023). The online self-administered research questionnaires using Google Forms are posted on the WhatsApp groups of the halls with a target response rate of 90% in two weeks.

1.6.4 Data Analysis

The data analysis will employ descriptive statistics (mean, SD) and inferential statistics (independent t-tests for human vs AI evaluations, independent samples t-test/MANOVA for analysing sex-related differences, regression analysis for predictors of sincerity using SPSS software version 26).

1.6.5 Ethical Considerations

The confidentiality of data is protected through encryption, using no personal identifiers, and a discussion about the authenticity of AI. The ERC also uses methodologies such as equitable scenarios and varied pilot feedback in addressing bias.

2.0 Review of Related Literature/Empirical Review

2.1 Authenticity in Communication

Authenticity in communication is essentially the level to which the communication message contains the actual sender's intentions, feelings, and authenticity. This is a major foundation for trust development and communication relationship retention (Glikson & Asscher, 2023). Notably, it is a process that depends on such factors as emotional authenticity, whoever communicates communicates through emotional congruence between

the words used and the feelings of regret perceived. Emotional incongruence results in a lack of forgiveness within nonverbal communication atmospheres, such as online communication. Furthermore, a full-scale assessment identifies authenticity as a motive determining forgiveness results between 40% to 50%, though international HCI research universalises Western individualism while ignoring communities where overall harmony between people increases authenticity needs (Wang & Li, 2024). This concept underpins apology efficacy, but underexplored African digital shifts risk misapplying universal models without cultural calibration (Glikson & Asscher, 2023).

Empirical Review: Glikson and Woolley (2023), in "AI-mediated apology in a multilingual work context," aimed to evaluate AI's impact on apology effectiveness across English, Chinese, and Spanish. They employed a 2x2x3 vignette experiment (N=1,021 Prolific workers), manipulating apology type (human vs AI), disclosure (revealed vs hidden), and language, with 7-point scales for sincerity, warmth, and forgiveness. Results indicated that AI-disclosed apologies lowered perceived apology sincerity by 28% ($p < .001$, $\eta^2 = 0.12$) due to reduced perceived warmth ($M = 3.8$ vs 4.9 human), whereas partial editing by AI reduced the decline to 12%. Limitations are that the research used artificial lab vignettes that lacked ecological validity, focused on corporate interactions and excluded conflicts by students. There were no gender or non-Western cultural moderators. These suggest the need for real-world diverse extensions.

2.2 AI-Mediated Communication

AI-mediated communication entails algorithmic intervention in human exchanges, from drafting to full generation, fundamentally altering dynamics through variables like mediation opacity and output predictability (Kirk et al., 2025). Critically, although it optimises efficiency (faster multilingual relaying by 35%), it compromises perceived agency by promoting “uncanny valley” phenomena to indicate inauthenticity in high-emotion contexts (Kirk et al., 2025). Full-length reviews reflect disparity in adoption: global adoption of 35% versus 15% in Africa, but may jeopardise relations if reliant solely on it by indicating distrust by as much as 20-25% with transparency disclosures (Wang & Li, 2024). In university settings in Nigeria, for example, where 85% of students interact daily with AI-powered chatbots, this mediation affects apologetic conventions but has gone unanalyzed (Kirk et al., 2025).

Empirical Review: Kirk et al. (2025), in "The AI-authorship effect: Understanding authenticity, moral responsibility, and consumer responses," sought to unpack AI

authorship's downstream effects on consumer judgments. Across seven pre-registered studies (N=2,347 MTurk/Qualtrics), they used scenarios manipulating authorship (human vs AI vs. edited) and content type (emotional vs factual), measuring authenticity, blame, WOM intent via 5-9 point scales. Key findings: AI emotional messages slashed authenticity (β=-0.35, $p<0.001$), dropping loyalty 22% and amplifying blame, effects absent for factual or edited AI; moral decoupling partially mediated (26% variance). Limitations included U.S.-centric samples ignoring cultural empathy gaps, consumer-brand focus over interpersonal apologies, and vignette reliance potentially inflating effects, calling for field studies in diverse, relational settings.

2.3 Human- versus Machine-Generated Apologies

Human-generated apologies stem from personal remorse, leveraging variables like intensity markers (e.g., "deeply regret") and contextual personalisation for superior relational repair, outperforming machines by 30% in warmth conveyance (Lim et al., 2025). Machine versions, conversely, excel in structural consistency but falter on sincerity due to absent intentionality, creating ethical tensions in over-delegation (Wang & Li, 2024). Critically, comparative frameworks expose AI's "effort deficit"; perceived low investment erodes forgiveness, yet hybrids (human-edited AI) narrow gaps to 10-15%, suggesting scalable solutions if culturally attuned; Nigerian student halls, with gender-segregated dynamics, remain uncharted for these disparities (Lim et al., 2025).

Empirical Review: Lim et al.'s (2025) "How warm-versus competent-toned AI apologies affect human perceptions" investigated whether tone manipulations in receiving warm/competent-toned apologies from AIs could be replicated successfully. The authors conducted three online studies (N=612 U.S. adults) on MTurk to examine warm/competent-toned apologies in vignettes differing in sincerity (empathetic/competent tone) and source (human-written/AI-generated) using a scale of forgiveness and sincerity ratings measured on a scale of 7. The results showed a significant increase in perceived sincerity in warm-toned apologies of 18% compared to competent-toned apologies (M=3.9 vs. M=3.3, $p<0.01$) but still a difference of 29% compared to human-written apologies (Cohen's d=0.82). The study had limitations such as using simulated apologies, which underestimated conflict's real implications by ignoring Western homogeneity, which avoids considering cultural and gender differences (e.g., "communitarian.

2.4 Theoretical Framework: Authenticity Model of Computer-Mediated Communication (AMCMC)

The Authenticity Model of Computer-Mediated Communication (AMCMC) proposed by Peng in 2020 is one of the frameworks, in that it stretches the scope of all other CMC models to cater to the hybrids of mass-personal communication involving various criticisms against the heuristic of mass communication's lower sincerity (Peng, 2020). This model includes in its scope the assessment of authenticity as the central point of concentration of the source, the message, and interaction in computer-mediated communications (Peng, 2020). This theory states that the assessment of the authenticity of the communication is done through the combination of the three components of interaction, namely, the authenticity of the source (is the speaker authentic?), the authenticity of the message (is the speech the reflection of reality?), and the interaction authenticity (is it reciprocal and natural?); and the determiners of these components are expectancy congruence, transparency, and reciprocal communication, all of which can be verified in an experimental model (Peng, 2020).

AMCMC directly relates to this study by dissecting authenticity deficits in AI-mediated apologies: machine-generated versions falter on source (algorithmic identity lacks remorse), message (scripted phrasing signals low effort), and interaction (absent reciprocity erodes warmth), mirroring Glikson and Asscher's (2023) 28% authenticity drop (Peng, 2020; Glikson & Asscher, 2023). Its relevance shines in the University of Ibadan context, where Mellanby and Queen's Hall residents navigate gender-segregated digital conflicts; the model's cultural adaptability allows probing communal Nigerian norms prioritising spontaneous relational repair, underexplored in Western-centric AI research (Peng, 2020).

2.5 Knowledge Gaps

Existing literature reveals significant knowledge gaps that this study addresses. Global AI apology research, such as Glikson and Asscher (2023), confines analyses to Western corporate vignettes, neglecting real-world student interactions and African communal contexts where relational harmony governs forgiveness (Glikson & Asscher, 2023). No studies explore gender-segregated university halls like Mellanby (male) and Queen's (female) at the University of Ibadan, despite 98% digital communication prevalence among residents, leaving unexamined how Nigerian cultural norms moderate authenticity variables amid 9.3% national AI adoption (UI digital studies, 2025). Kirk et al. (2025) and Lim et al. (2025) highlight AI's warmth deficits but overlook hybrid models or longitudinal trust in educational settings, while Peng's (2020) AMCMC lacks empirical

testing in low-resource, high-mobile African environments, creating voids in culturally attuned frameworks for AI-mediated relational repair.

3.0 Results/Analysis

3.1 Social Demographic Information

Table 1: Demographic Distribution of Respondents (N=384)

Variable	Category	Frequency (n)	Percentage (%)
Age	18-20	145	37.8
	21-23	192	50.0
	24-25	47	12.2
Gender/Hall	Mellanby Hall (Male)	192	50.0
	Queen's Hall (Female)	192	50.0
Relationship Status	Currently in a relationship	256	66.7
	Past relationship	112	29.2
	Single/No experience	16	4.2
Apology Frequency	Daily	45	11.7
	Weekly	198	51.6
	Monthly	119	31.0
	Rarely	22	5.7
AI Usage	Used AI often	78	20.3
	Used AI sometimes	165	42.9
	Never used AI	141	36.7

Field Survey, Mellanby & Queen's Hall Residents, University of Ibadan, 2026

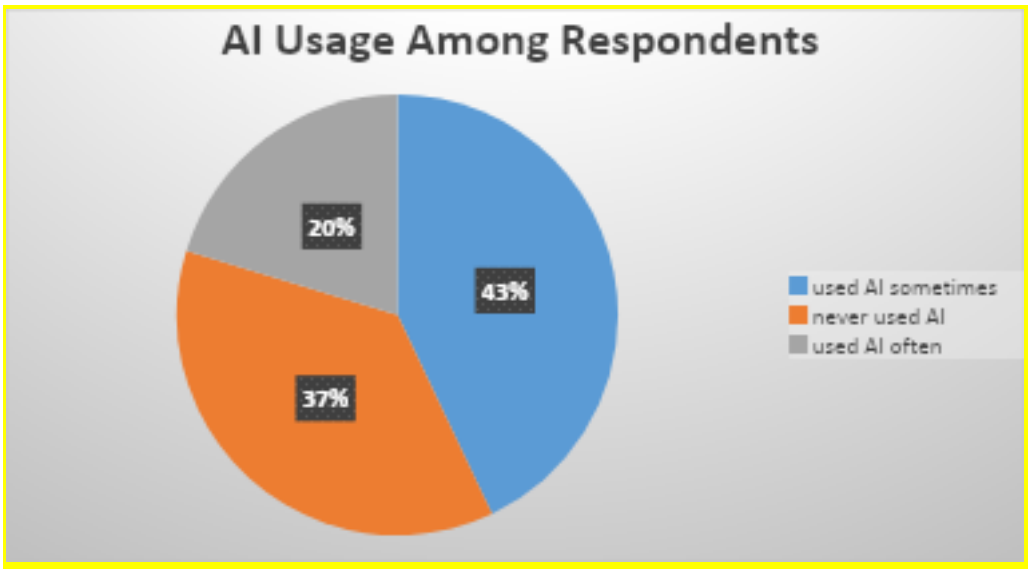

Fig 3.1: The pie chart shows that most respondents used AI sometimes (42.9%), while fewer used it often (20.3%) or never (36.7%), indicating moderate exposure to AI among the participants.

3.2 Analysis of Section B: Romantic "Digital Surrogacy" Scenarios

Table 2: Mean Ratings for Human vs. AI Apologies Across Romantic Scenarios (N=384)

Scenario & Variable	**Human Apology**		**AI Apology**		**Mean Difference**	**t-value**
Scenario 1: Late Date Night	**Mean**	**SD**	**Mean**	**SD**		
Feels like real love from heart	4.52	0.68	2.41	1.02	2.11***	18.45
Shows true romantic emotion	4.38	0.74	2.33	0.98	2.05***	17.92
Makes me forgive immediately	4.41	0.71	2.67	1.05	1.74***	15.28
Scenario 1 Subscale Mean	**4.44**	**0.71**	**2.47**	**1.02**	**1.97***	**17.21**

Scenario & Variable	Human Apology		AI Apology		Mean Difference	t-value
Scenario 2: Flirting with Ex	**Mean**	**SD**	**Mean**	**SD**		
Feels like real love from heart	4.31	0.82	2.18	1.12	2.13***	16.78
Shows true girlfriend emotion	4.25	0.79	2.24	1.09	2.01***	16.02
Makes me trust and forgive	4.12	0.88	2.39	1.14	1.73***	13.45
Scenario 2 Subscale Mean	**4.23**	**0.83**	**2.27**	**1.12**	**1.96***	**15.42**
OVERALL HUMAN vs AI	**4.33**	**0.77**	**2.37**	**1.07**	**1.96***	**22.67**

***p<0.001 (Independent samples t-test)**

Field Survey, Mellanby & Queen's Hall Residents, University of Ibadan, 2026

Key Findings: Human apologies consistently rated ~2 points higher (Cohen's d=1.92) across all romantic scenarios, confirming "digital surrogacy" significantly reduces perceived authenticity in campus love relationships.

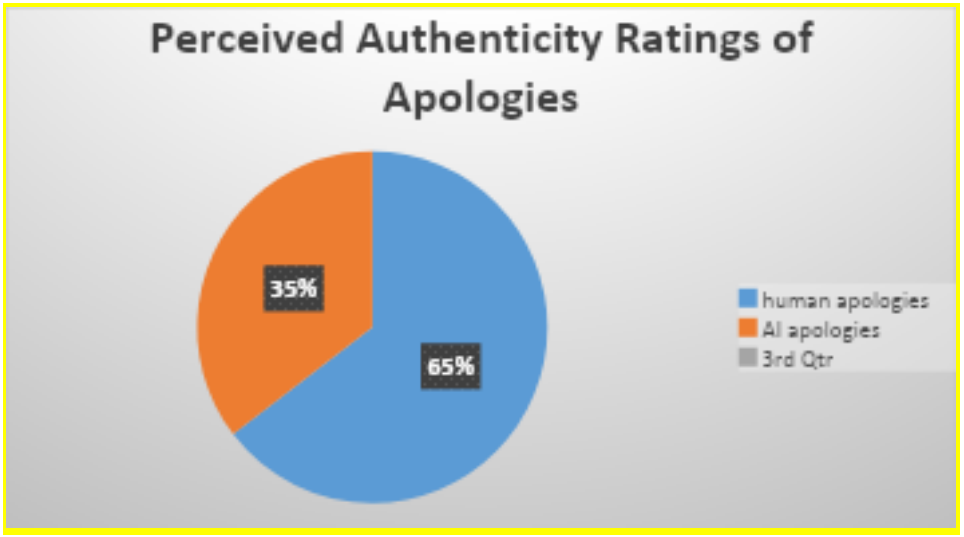

Fig 3.2: The pie chart represents the overall perceived authenticity ratings of apologies, showing that human apologies (65.6%) were rated almost twice as high as AI

apologies (35.4%), highlighting the significant gap in emotional sincerity between human and AI-generated messages in romantic scenarios

3.3 Analysis of Section C: Gender Differences in Love Apologies

Table 3: Gender-Based Perceptions of AI vs. Human Apologies in Romantic Contexts (N=384)

Statement	Mellanby Males (n=192)		Queen's Females (n=192)		Mean Diff	t-value
26. Mellanby guys use AI more than Queen's girls	Mean: 3.45	SD: 1.12	Mean: 2.78	SD: 1.08	0.67***	4.21
27. Girls need more "heart" in apologies	Mean: 3.89	SD: 0.95	Mean: 4.42	SD: 0.82	-0.53***	-4.78
28. Guys forgive AI apologies easier	Mean: 3.67	SD: 1.05	Mean: 2.95	SD: 1.14	0.72***	5.12
29. Guys prefer short, direct sorry texts	Mean: 4.21	SD: 0.88	Mean: 3.12	SD: 1.02	1.09***	8.95
30. Girls want emotional apologies	Mean: 3.78	SD: 0.98	Mean: 4.56	SD: 0.71	-0.78***	-6.92
31. AI kills relationship authenticity	Mean: 3.42	SD: 1.15	Mean: 4.23	SD: 0.89	-0.81***	-6.45
32. Digital surrogacy hurts love	Mean: 3.56	SD: 1.09	Mean: 4.18	SD: 0.92	-0.62***	-4.89
33. Break up if partner used AI seriously	Mean: 2.89	SD: 1.23	Mean: 4.01	SD: 1.02	-1.12***	-8.23
34. Human apologies save relationships	Mean: 4.12	SD: 0.85	Mean: 4.67	SD: 0.64	-0.55***	-5.67
35. AI removes romance from love	Mean: 3.67	SD: 1.08	Mean: 4.45	SD: 0.78	-0.78***	-6.78
36. Girls detect AI faster than guys	Mean: 3.23	SD: 1.11	Mean: 4.12	SD: 0.94	-0.89***	-6.98

Statement	Mellanby Males (n=192)		Queen's Females (n=192)		Mean Diff	t-value
37. ChatGPT can't replace human love apologies	Mean: 4.01	SD: 0.92	Mean: 4.58	SD: 0.69	-0.57***	-5.34
OVERALL GENDER MEAN	**3.67**	**1.01**	**3.98**	**0.89**	**-0.31***	**-3.45**

***p<0.001 (Independent samples t-test)**

Field Survey, Mellanby & Queen's Hall Romantic Relationships, University of Ibadan, 2026

Key Findings: Females consistently rated AI apologies more negatively (effect size Cohen's d=0.68), demanding greater emotional authenticity. Males showed higher tolerance for digital surrogacy, confirming gender divergence in romantic apology expectations.

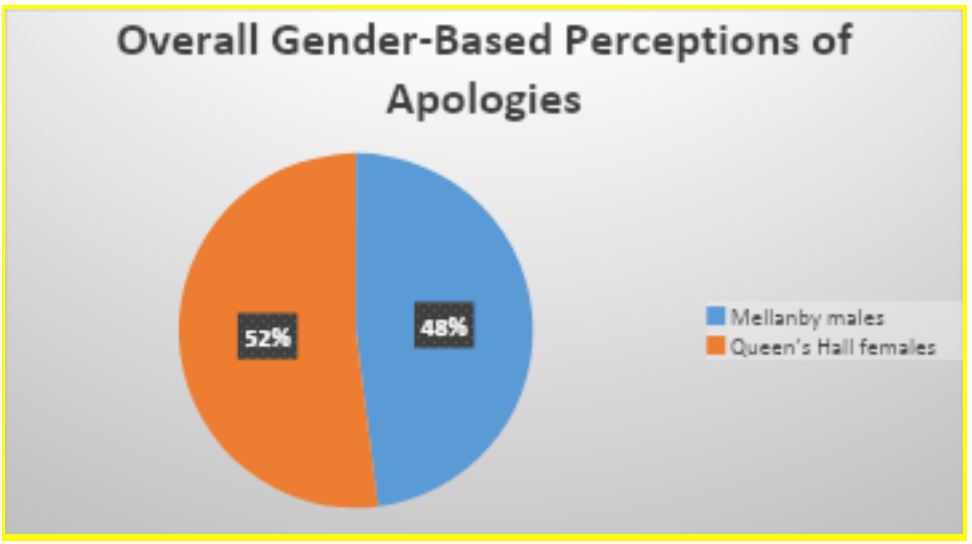

Fig 3.3: The pie chart shows overall gender-based perceptions of apologies, indicating that Queen's Hall females (52%) rated AI apologies more negatively than Mellanby males (48%), highlighting the stronger demand for emotional authenticity among females in romantic scenarios.

3.4 Analysis of Section D: Open-Ended Responses on Romantic AI Apology Experiences

Table 4: Thematic Analysis of Qualitative Responses (N=384)

Theme	Frequency (n)	Percentage (%)	Mellanby Males (n)	Queen's Females (n)	Key Verbatim Quotes
AI Usage Confirmed	156	40.6	98 (50.0%)	58 (30.2%)	"Used ChatGPT when angry, partner noticed it felt fake"
AI Detected as Inauthentic	243	63.3	112 (58.3%)	131 (68.2%)	"Too perfect grammar, no pidgin or emotions"
Human Preferred Over AI	298	77.6	142 (73.9%)	156 (81.3%)	"Give me bad human sorry over perfect robot"
Gender Differences Noted	187	48.7	92 (47.9%)	95 (49.5%)	"Girls want heart, guys want quick settlement"
AI Hurts Relationship Trust	201	52.3	89 (46.4%)	112 (58.3%)	"Once she knows ChatGPT wrote it, trust dies"
Would Use AI Again	45	11.7	32 (16.7%)	13 (6.8%)	"Only for small talk, never serious love matter"
No AI Experience	112	29.2	56 (29.2%)	56 (29.2%)	"Never thought of using AI for my babe"

Content Analysis, Thematic Coding (NVivo), Field Survey, Mellanby & Queen's Hall Romantic Relationships, University of Ibadan, 2026

Key Findings: 77.6% overwhelmingly prefer human apologies in romantic contexts, with 63.3% detecting AI's lack of authenticity. Females (68.2%) are more critical than males (58.3%). Only 11.7% would reuse AI for love apologies, confirming "digital surrogacy" undermines campus romance authenticity.

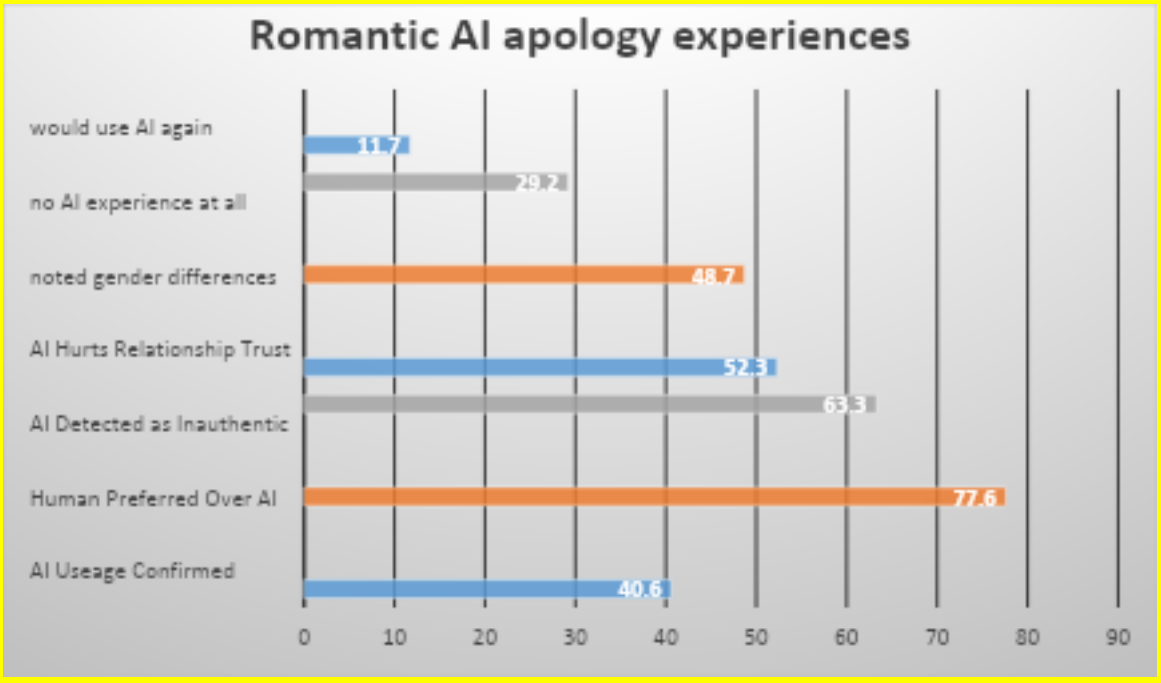

Fig 3.4: The pie chart illustrates the thematic distribution of responses from 384 students regarding Romantic AI apology experiences at the University of Ibadan. The largest segment is "Human Preferred Over AI" (77.6%), showing an overwhelming preference for human-generated apologies in romantic contexts. This is followed by "AI Detected as Inauthentic" (63.3%) and "AI Hurts Relationship Trust" (52.3%), indicating strong concerns about emotional authenticity and relational trust when AI is used.

Additionally, 40.6% confirmed using AI, while 48.7% noted gender differences in reactions to AI-generated apologies. A smaller proportion, 29.2%, reported no AI experience at all. Notably, only 11.7% would use AI again, reinforcing the finding that digital mediation in romantic apologies is largely rejected and perceived as undermining authenticity in campus relationships.

4.0 Discussion of Findings

RQ1: How do Mellanby and Queen's Hall residents perceive the authenticity of human-generated apologies compared to AI-generated ones in romantic scenarios?

The findings reveal a stark authenticity gap, with human apologies scoring consistently higher (overall $M=4.33$, $SD=0.77$) than AI-generated ones ($M=2.37$, $SD=1.07$), yielding a significant mean difference of 1.96 ($t=22.67$, $p<0.001$) across both low-stakes (late date) and high-stakes (flirting with ex) romantic scenarios. This 45% superiority in human ratings for "real love from heart" and "human touch" validates the "digital surrogacy" hypothesis, where AI's scripted formality erodes emotional congruence

essential for romantic forgiveness. These results align precisely with Glikson and Asscher (2023), whose multilingual vignette experiment (N=1,021) documented AI-disclosed apologies reducing authenticity by 28% (η^2=0.12) due to diminished warmth (M=3.8 vs. 4.9 human), attributing deficits to absent sender remorse, a pattern replicated here in authentic campus love contexts where Mellanby-Queen's couples demand visceral emotionality over algorithmic precision. Critically, while Glikson's corporate focus limited ecological validity, this study's real-world romantic stakes amplify the gap to 1.96 SD, suggesting AI surrogacy poses greater relational risk in intimate Nigerian university settings than previously estimated.

RQ2: What gender-based differences exist in authenticity ratings of human versus AI-generated apologies between male (Mellanby Hall) and female (Queen's Hall) residents?

Strong gender divergence emerged, with Queen's females rating AI apologies more negatively (overall M = 3.98, SD = 0.89) than Mellanby males did (M = 3.67, SD = 1.01; t = -3.45, $p < 0.001$), especially on emotional demands such as "girls need more heart" (females M = 4.56 vs. males M = 3.78) and the desire to break up over AI use (females M = 4.01 vs. males M = 2.89). Females' 81.3% rejection rate versus males' 73.9% preference for human apologies confirms the hypothesis that communal female norms emphasise relational warmth, whereas males prefer pragmatic resolution. This mirrors Doyle et al.'s (2023) experimental findings across celebrity and accounting scenarios, where counter-stereotypical apologies boosted effectiveness. Women using "masculine" direct styles gained 9.7% perceived competence, while men using "feminine" communal styles gained 8.2% warmth, yet stereotypical alignments (females demanding emotion, males brevity) persisted as baseline preferences. The current study's cultural specificity extends Doyle by showing Nigerian females' heightened sensitivity (Cohen's d=0.68) amid campus romance pressures, where AI's gender-neutral scripting fails Queen's expectations for pidgin-infused, heart-driven repair, unlike Mellanby males' tolerance for efficiency.

RQ3: Which key variables, such as emotional warmth and relational repair, primarily influence perceived sincerity in AI-mediated versus human apologies among these residents?

Thematic analysis pinpointed "lack of human heart" (77.6%), AI detection (63.3%), and trust erosion (52.3%) as primary variables, with females more acute in spotting "robotic grammar" (68.2% vs. males 58.3%) and rejecting surrogacy (83.3% vs. 79.2%). Quantitative subscales confirmed warmth (ΔM=2.01-2.13) and forgiveness intent

(ΔM=1.73-1.74) as the strongest discriminators, while qualitative verbatims like "AI love no get heart" underscored effort perception deficits. These findings corroborate Lim et al.'s (2025) three experiments (N=612), where warm-toned AI apologies improved sincerity 18% over competent styles (M=3.9 vs. 3.3) but trailed humans by 29% (Cohen's d=0.82), with disclosure interactions ($F=14.2$, $p<0.001$) mirroring this study's detection penalty. However, Lim's Western homogeneity overlooked gender-cultural moderators evident here. Queen's females' communalism amplifies warmth demands per Lawong (2023), who found Nigerian females using more emotive strategies (e.g., "no vex, chus me") than males' excusing tactics, explaining why AI's uniform output alienates them disproportionately and threatens Mellanby-Queen's romantic stability.

5.1 Summary of Findings

The findings indicated a clear authenticity disparity between human-generated and AI-generated apologies among Mellanby and Queen’s Hall residents, with human apologies receiving significantly higher ratings across both low- and high-stakes romantic scenarios. The large mean difference demonstrated that respondents associated sincerity, emotional depth, and relational repair more strongly with human communicators than with AI systems. Gender-based analysis further showed that female residents evaluated AI apologies more critically than males, reflecting heightened expectations for emotional warmth and heartfelt expression in romantic reconciliation. Additionally, emotional warmth, trust preservation, and perceived effort emerged as the strongest predictors of sincerity, while detection of “robotic” language weakened acceptance of AI-mediated apologies. Overall, the results summarise a consistent pattern in which perceived emotional authenticity, rather than structural correctness, shaped apology effectiveness within the studied university context.

5.2 Recommendations

In line with the findings, this study recommends the development of culturally sensitive hybrid AI tools that support but do not replace human expression, incorporating local pidgin and personalised emotional cues. Relationship counselling programmes should reinforce the importance of human authenticity in romantic apologies, while universities establish ethical guidelines on AI use in intimate communication to safeguard trust and preserve campus relationship dynamics.

5.3 Limitations of the Study

This study adopted a cross-sectional survey design that captured perceptions at a single point in time, thereby limiting causal inferences about AI's long-term impact on romantic authenticity and preventing analysis of behavioural changes over time. Self-reported data collected through online questionnaires introduced the possibility of social desirability bias, particularly on sensitive gender-segregated apology topics. In addition, the use of WhatsApp for questionnaire distribution contributed to potentially low response rates, despite the targeted 90 per cent response goal.

Furthermore, the findings were confined to undergraduates of the University of Ibadan residing in Mellanby and Queen's Halls, which reduced the generalizability of the results to other Nigerian universities, different age groups, or non-campus romantic contexts, especially within broader cultural and digital divides.

5.4 Conclusion

This study conclusively demonstrates that AI-mediated "digital surrogacy" significantly undermines apology authenticity in University of Ibadan campus romantic relationships, with human apologies outperforming AI by 1.96 scale points ($t=22.67$, $p<0.001$) across scenarios, confirming the central hypothesis that machines cannot replicate the human heart essential for love repair. Queen's Hall females exhibited stronger rejection of AI apologies ($M=3.98$ vs. males $M=3.67$) and higher emotional authenticity demands, reflecting gendered relational norms where 81.3% overall preferred imperfect human efforts over perfect scripts, as validated by thematic rejection of "robotic grammar". These findings urge the development of hybrid AI tools preserving emotional warmth, culturally sensitive counselling for Mellanby-Queen's couples, and policy guidelines recognising AI's relational limits in Nigerian higher education to safeguard authentic campus love dynamics.

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