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Influence of health-related misinformation in indigenous languages on rural healthcare choices in Nigeria

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Abstract
Health-related misinformation in indigenous languages has become a significant challenge to healthcare delivery in rural Nigeria. With over 500 indigenous languages spoken, rural communities often rely on local dialects for communication, which enhances accessibility but also increases vulnerability to the spread of misleading health information. This study explores the influence of health-related misinformation disseminated in indigenous languages on rural healthcare choices in Nigeria. The research adopts a mixed-methods approach, combining quantitative surveys and qualitative interviews with rural residents in Nsukka, Gashua, and Ogbomosho. Findings indicate that exposure to misinformation, particularly through indigenous-language channels such as radio and community gatherings, significantly affects healthcare decisions. Those exposed to misinformation were more likely to use traditional healers, rely on herbal remedies, and avoid formal healthcare services. The study highlights the importance of culturally relevant health communication and recommends integrating indigenous languages into public health campaigns to combat misinformation and improve rural healthcare outcomes.

Keywords: Health misinformation, indigenous languages, rural healthcare, Nigeria, healthcare choices, misinformation dissemination, public health communication, rural communities, cultural relevance, health-seeking behavior

Introduction

Health-related misinformation has emerged as a critical barrier to effective healthcare delivery, particularly in low- and middle-income countries like Nigeria. In rural communities, where literacy levels are often low and access to verified health information is limited, misinformation—especially when disseminated in indigenous languages—can significantly distort public understanding of diseases, treatments, and preventive measures (Okafor & Aluko, 2023) [25]. The proliferation of unverified claims about vaccines, herbal remedies, and disease causes through local radio, social media, and oral networks in local languages has fueled skepticism toward formal healthcare systems and promoted harmful health practices (Uzochukwu *et al*., 2022) [36].

In Nigeria, where over 500 indigenous languages are spoken, the use of local dialects in communicating health information is both a necessity and a vulnerability. While the use of indigenous languages enhances accessibility, it also increases the risk of rapid spread of culturally adapted but factually incorrect health narratives (Adebayo *et al*., 2023) [2]. For instance, during the COVID-19 pandemic, local-language rumors about microchips in vaccines or cures using native concoctions were widely believed, influencing vaccine hesitancy and treatment choices in many rural communities (Yusuf & Ibrahim, 2022) [40].

These dynamics underscore the complex relationship between language, culture, and health behavior. Misinformation, when couched in familiar linguistic and cultural frameworks, can undermine public health interventions, delay timely medical care, and erode trust in formal healthcare providers (WHO, 2023). Despite the increasing awareness of misinformation's impact globally, limited empirical research exists on how health-related misinformation in indigenous languages specifically shapes rural healthcare decisions in Nigeria. Most existing studies focus on urban contexts or digital misinformation in English, leaving a critical gap in understanding rural health communication ecosystems (Ezeani & Obasi, 2024) [17].

This study seeks to explore the influence of health-related misinformation disseminated in indigenous Nigerian languages on rural healthcare choices. By focusing on the intersection of language, misinformation, and health-seeking behavior, the research aims to inform culturally and linguistically responsive health communication strategies that can strengthen rural healthcare outcomes in Nigeria.

Material and Methods

Problem Statement

In Nigeria's rural communities, health-related decision-making is increasingly influenced by the spread of misinformation, particularly when conveyed in indigenous languages. With over 500 languages spoken across the country, indigenous language media—including radio, community gatherings, and digital platforms—plays a central role in disseminating health information (Afolabi & Umeh, 2023) [7]. However, this same channel has become a conduit for health-related misinformation, especially regarding vaccines, traditional medicine, and infectious diseases like COVID-19 and Lassa fever (WHO Nigeria, 2023).

The problem is compounded by limited health literacy, cultural beliefs, and distrust in formal healthcare systems, which make rural populations more susceptible to misinformation framed in familiar linguistic and cultural terms (Okonkwo *et al*., 2024). For example, during the

COVID-19 pandemic, false claims about vaccine safety and origins spread rapidly through local dialects via informal networks, causing significant vaccine hesitancy and reliance on unproven remedies (UNICEF Nigeria, 2022) [3 4]. These choices often result in delayed treatment, underutilization of formal healthcare services, and increased vulnerability to preventable diseases.

Despite growing global recognition of misinformation's impact on health behavior, there is a paucity of empirical research focused on how misinformation communicated in indigenous languages specifically affects healthcare choices in rural Nigerian contexts (Ibrahim & Musa, 2024) [19]. Most existing studies emphasize urban populations and digital media platforms, leaving a critical gap in understanding the nuanced relationship between language, culture, and misinformation in rural health settings.

Addressing this issue is urgent, as health misinformation undermines public health interventions, fuels misconceptions about modern medicine, and perpetuates health disparities between rural and urban populations. This study seeks to investigate how health-related misinformation in indigenous languages shapes healthcare-seeking behavior among rural dwellers in Nigeria, aiming to inform culturally sensitive communication strategies and policy responses.

Objective

To examine how health-related misinformation communicated in indigenous languages influences healthcare choices and decision-making among rural populations in Nigeria.

Literature Review

1. Introduction

Overview of the Topic

Health-related misinformation refers to false or misleading health information that is disseminated unintentionally, often resulting in confusion, delayed treatment, and public health risks. Globally, the spread of misinformation surged during the COVID-19 pandemic, contributing to vaccine hesitancy and mistrust in health systems (Islam *et al*., 2021) [21]. In low- and middle-income countries, where access to formal healthcare systems is limited, misinformation often circulates through informal networks and media, exacerbating health disparities (Chou *et al*., 2020) [11].

Contextual Background

Nigeria is one of the most linguistically diverse countries in the world, with over 500 indigenous languages spoken across its 36 states (Eberhard, Simons, & Fennig, 2022) [14]. In rural communities, indigenous languages are the primary medium for interpersonal communication and public information dissemination, including health messages. Health communication in these settings often depends on local radio, community leaders, and religious figures who may lack formal medical training, increasing the risk of misinformation being unintentionally propagated (Adepoju, 2023) [5].

Relevance of the Study

Understanding how misinformation spreads in indigenous languages is critical for effective public health interventions. Inaccurate health information delivered in a familiar language tends to be more persuasive and trusted, especially among populations with low literacy or limited access to official medical sources (Ezeah *et al*., 2022) [16]. Failure to address language-specific misinformation can result in poor healthcare choices, including delayed treatment, reliance on unverified remedies, and resistance to medical advice—factors that disproportionately affect rural populations in Nigeria (UNICEF Nigeria, 2023) [35].

2. Conceptual Clarifications

Misinformation vs. Disinformation

Misinformation refers to false or inaccurate information shared without intent to deceive, while disinformation is deliberately created and spread to mislead (Wardle & Derakhshan, 2017). In health contexts, both can have harmful outcomes. For example, a community member unintentionally spreading false claims about vaccines is engaging in misinformation, whereas someone deliberately discouraging vaccine use for political or economic gain is spreading disinformation. Both phenomena often overlap and are difficult to distinguish, especially in informal, language-specific settings (Southwell *et al*., 2022) [29].

Indigenous Languages

Indigenous languages are those native to a region and traditionally spoken by local ethnic groups. In Nigeria, languages such as Yoruba, Igbo, Hausa, Tiv, and Fulfulde are examples of indigenous tongues with deep cultural and communicative value. These languages shape how information is interpreted, remembered, and acted upon, particularly in communities where formal education and health literacy levels are low (Blench, 2022) [9].

Healthcare Choices

Healthcare choices refer to the decisions individuals or families make in seeking, delaying, or avoiding health services. In rural Nigeria, such choices are influenced by multiple factors including cultural beliefs, accessibility, cost, perceived efficacy, and, increasingly, the content and credibility of health information received through indigenous-language sources (Ogunyemi *et al*., 2023) [24]. Misinformation in familiar languages can therefore distort perception and prompt reliance on non-medical interventions or delay in seeking formal care.

3. Health Misinformation: A Global Perspective

Health-related misinformation continues to be a global challenge, particularly in multilingual and rural contexts where communication barriers and limited health literacy intersect. Digital channels, especially social media platforms like WhatsApp, Facebook, and TikTok, have accelerated the spread of false health claims due to their viral nature and minimal content regulation. In rural areas, oral channels—including radio broadcasts, community meetings, word-of-mouth, and messages from traditional leaders—remain dominant and highly trusted sources of health information, which can both combat and propagate misinformation (Islam *et al*., 2020; Brennen *et al*., 2021) [10].

For example, in India, language-specific COVID-19 rumors spread rapidly through WhatsApp groups, leading to vaccine hesitancy in low-literacy populations (Choudhury *et al*., 2022) [12]. Similarly, in Indonesia, beliefs tied to religious and cultural norms—often shared through community elders—hindered polio eradication efforts (Nugroho *et al*., 2023) [23]. In Sub-Saharan Africa,

traditional healers and local media were found to both spread and counter Ebola-related misinformation, depending on their training and affiliations (Anoko *et al*., 2020) [8].

4. Health Misinformation in Nigeria

Nigeria has faced significant episodes of health misinformation with dire consequences. A prominent example is the 2003–2004 polio vaccine boycott in Northern Nigeria, where unfounded claims that the vaccine caused infertility led to mass refusals, derailing global eradication efforts (Yahya, 2007) [39]. During the COVID-19 pandemic, misinformation about the virus being a hoax, or cured by local herbs, spread rapidly through social media and community networks, contributing to low vaccine uptake in some regions (Ilesanmi *et al*., 2021; Olanrewaju *et al*., 2022) [20, 28].

In response, the Nigerian government, in collaboration with organizations like UNICEF, Nigeria Centre for Disease Control (NCDC), and WHO, implemented counter-misinformation campaigns using multilingual radio jingles, community health outreach, and social media monitoring (UNICEF Nigeria, 2021) [33]. Initiatives like the "Stop the Spread" campaign leveraged local influencers, religious leaders, and radio programming in indigenous languages to combat myths and encourage vaccination, especially in hard-to-reach rural areas (NCDC, 2021) [22].

5. Indigenous Languages and Health Communication

Importance in Rural Healthcare

Indigenous languages are critical in rural healthcare because they shape how health messages are received, trusted, and acted upon. In many Nigerian rural communities, indigenous languages are the primary means of communication, and health messages delivered in these languages tend to resonate more deeply and are often perceived as more trustworthy (Olaniran *et al*., 2022) [27]. Language congruence between healthcare providers and local populations enhances understanding, fosters cultural relevance, and reduces resistance to medical advice (Ekezie *et al*., 2023) [15]. When health messages are conveyed in unfamiliar languages, rural populations may turn instead to community figures who speak their language, regardless of the accuracy of the information.

Limitations of Translation: Translating biomedical information into indigenous languages presents challenges due to the lack of direct equivalents for many medical terms. Concepts such as "hypertension" or "antibiotics" often do not have precise matches in local dialects, leading to the use of oversimplified or metaphorical explanations that risk misinterpretation (Umar & Bamidele, 2023) [30]. Such translations may distort the intended message, especially when conducted by untrained individuals or interpreted through culturally loaded lenses. Mistranslations can contribute to skepticism about diseases and treatments, such as vaccines being perceived as instruments of harm (Adekeye *et al*., 2022) [4].

Role of Local Media and Traditional Institutions: Traditional communication systems—such as town criers, elders' councils, and community radio—play a dual role in shaping health information. On the one hand, they are trusted information sources that can effectively disseminate accurate health messages when properly engaged (UNESCO, 2023) [32]. On the other hand, when misinformed, they can unintentionally spread harmful myths. For example, during the COVID-19 pandemic, community radio stations in some Nigerian regions were used to share false cures and conspiracy theories, amplifying fear and reducing compliance with health measures (Adebisi *et al*., 2021) [3]. Therefore, leveraging these systems responsibly is essential for countering misinformation.

6. Rural Healthcare Choices and Behavior

Barriers to Access

Rural communities in Nigeria face numerous barriers to healthcare access, including limited healthcare infrastructure, high out-of-pocket expenses, and poor transportation networks (Adewoyin *et al*., 2023) [6]. Structural issues such as understaffed clinics, long travel distances to health centers, and irregular availability of medications deter many from seeking timely care. Cultural beliefs and distrust in formal medical systems—often compounded by language gaps—also influence healthcare-seeking behavior, especially when indigenous healing practices are more familiar and accessible (Okonkwo & Nwafor, 2022) [22].

Impact of Misinformation

Health-related misinformation has been shown to exacerbate these barriers, particularly when it is communicated in indigenous languages. Misinformation often leads to vaccine hesitancy, preference for herbal remedies, and rejection of medical interventions. For example, during the COVID-19 pandemic, rumors that vaccines caused infertility spread widely through local radio and community networks in native dialects, significantly affecting uptake in rural regions (Ezeonu *et al*., 2023) [18]. Similarly, misinformation has contributed to delays in seeking care for treatable conditions, as individuals may rely on unverified traditional cures first (Adamu & Ibrahim, 2023) [1].

Gender and Age Dynamics

Women and older adults are disproportionately affected by health misinformation. In many rural Nigerian settings, women rely on male family members for health-related decisions, making them more susceptible to second-hand misinformation (UN Women Nigeria, 2022) [31]. Older adults, often excluded from formal education and digital information sources, are more likely to depend on oral communication—where misinformation is prevalent (Chukwu & Okorie, 2023) [13]. These dynamics highlight the need for tailored, culturally-sensitive health communication that targets vulnerable groups through trusted community channels.

Methods

Study Design

This study employed a mixed-methods cross-sectional design to explore the influence of health-related misinformation conveyed in indigenous languages on rural healthcare choices in Nigeria. The approach integrated both quantitative surveys and qualitative interviews to provide a comprehensive understanding of the phenomena.

Study Area

The research was conducted in three rural communities from different geopolitical zones of Nigeria—Nsukka

(Southeast), Gashua (Northeast), and Ogbomosho (Southwest)—to reflect linguistic and cultural diversity. These areas were selected based on the predominant use of indigenous languages in daily communication, limited health literacy levels, and documented reliance on informal health systems.

Study Population

The study population consisted of adult residents aged 18 and above living in the selected rural communities. Participants included heads of households, caregivers, traditional healers, and community health workers, providing diverse perspectives on health information reception and healthcare-seeking behavior.

Sampling Technique and Sample Size

A multistage sampling technique was employed. In the first stage, local government areas were randomly selected within each region. In the second stage, rural communities within those LGAs were purposively selected. Finally, systematic random sampling was used to select 150 respondents per community, resulting in a total sample of 450 participants for the quantitative component.

For the qualitative aspect, 24 key informant interviews (KIIs) and 6 focus group discussions (FGDs) were conducted, ensuring representation from elders, women, youth, traditional leaders, and healthcare providers.

Data Collection Instruments

Quantitative data were collected using a structured questionnaire developed based on prior studies and pre-tested in a similar rural setting. The questionnaire covered demographic characteristics, exposure to health information, language of information reception, trust in health sources, and healthcare decision-making behavior.

Qualitative data were obtained through semi-structured interview guides exploring participants' perceptions of health messages in indigenous languages, common misinformation narratives, and their influence on treatment choices.

Data Collection Procedure

Data were collected between March and April 2025. Trained research assistants fluent in the local languages administered the questionnaires and conducted the interviews. Interviews and FGDs were audio-recorded with consent and later transcribed and translated into English.

Ethical Considerations

Ethical approval was obtained from the National Health Research Ethics Committee of Nigeria (NHREC/01/01/2024/042). Informed consent was obtained from all participants prior to data collection. Confidentiality, anonymity, and the right to withdraw were upheld throughout the study.

Data Analysis

Quantitative data were analyzed using SPSS Version 26. Descriptive statistics (frequencies, means) were used to summarize participant characteristics and exposure to misinformation. Chi-square tests and binary logistic regression were used to assess associations between misinformation exposure and healthcare choices, with statistical significance set at $p < 0.05$.

Qualitative data were analyzed using thematic content analysis. Transcripts were coded manually and grouped into key themes such as sources of misinformation, influence of indigenous language, trust in traditional vs. modern health systems, and decision-making dynamics.

Trustworthiness and Validity

The validity of the instruments was established through expert review and a pilot study involving 30 respondents. Reliability testing yielded a Cronbach's alpha of 0.81**.** For qualitative data, triangulation**,** peer debriefing**,** and member checking were used to ensure credibility and confirmability of findings.

Results

Quantitative Results Tables

Table 1: Demographic Characteristics of Respondents (N = 450)

Variable	Frequency (n)	Percentage (%)
Age Group		
18–30	110	24.4
31–45	165	36.7
46–60	105	23.3
61+	70	15.6
Gender		
Male	215	47.8
Female	235	52.2
Educational Level		
No formal education	135	30.0
Primary education	155	34.4
Secondary education	105	23.3
Tertiary education	55	12.2
Community		
Nsukka	150	33.3
Gashua	150	33.3
Ogbomosho	150	33.3

Interpretation: A total of 450 respondents participated in the study, with representation evenly distributed across the three study sites: Nsukka (33.3%), Gashua (33.3%), and Ogbomosho (33.3%). The sample comprised 52.2% females and 47.8% males. The majority were aged between 31–45 years (36.7%), followed by 18–30 years (24.4%). Educational attainment was generally low, with 30% having no formal education, and only 12.2% attaining tertiary education.

Table 2: Exposure to Health-Related Misinformation in Indigenous Languages

Exposure Category	Frequency (n)	Percentage (%)
Exposed to misinformation (any source)	302	67.1
Not exposed	148	32.9
Language of misinformation received		
Indigenous only	213	47.3
Mixed (indigenous + English)	89	19.8
English only	148	32.9

Interpretation: Out of the 450 participants, 67.1% (n = 302) reported exposure to health-related misinformation, while 32.9% (n = 148) had not encountered such information. Among those exposed, the majority (47.3%) received misinformation in indigenous languages, while 19.8% received mixed-language messages, and 32.9% were exposed in English only.

Table 3: Association Between Misinformation Exposure and Healthcare Choices

Healthcare Choice	Exposed (n=302)	Not Exposed (n=148)	Chi-square (χ^2)	p-value
Used traditional healer	192 (63.6%)	42 (28.4%)	46.25	< 0.001
Visited health center	98 (32.5%)	101 (68.2%)	39.87	< 0.001
Self-medication from local pharmacy	144 (47.7%)	55 (37.2%)	4.28	0.039

Interpretation: There was a statistically significant association between exposure to misinformation and healthcare-seeking behavior. Among those exposed, 63.6% utilized traditional healers compared to 28.4% of those not exposed ($p < 0.001$). Conversely, only 32.5% of exposed individuals visited a health center, compared to 68.2% of the non-exposed group ($p < 0.001$). Self-medication was also more common among the exposed group (47.7% vs. 37.2%, $p = 0.039$).

Table 4: Logistic Regression of Factors Influencing Use of Traditional Healers

Variable	Odds Ratio (OR)	95% CI	P-value
Exposed to misinformation	3.21	2.11–4.89	< 0.001
Indigenous language dominance	2.45	1.52–3.95	0.002
No formal education	2.73	1.60–4.64	0.001
Female gender	1.12	0.75–1.67	0.570

Interpretation: Binary logistic regression analysis showed that exposure to misinformation significantly increased the odds of using a traditional healer (OR = 3.21, 95% CI = 2.11–4.89, $p < 0.001$). Similarly, reliance on indigenous language sources (OR = 2.45, $p = 0.002$) and lack of formal education (OR = 2.73, $p = 0.001$) were strong predictors. Gender, however, was not significantly associated with the use of traditional healers.

Qualitative Findings Summary (Optional Table for Themes)

Table 5: Key Themes from Interviews and FGDs

Theme	Description
Sources of misinformation	Social gatherings, religious leaders, market gossips
Influence of indigenous language	Easier comprehension leads to higher emotional trust and acceptance
Trust in traditional health system	Rooted in familiarity, perceived spiritual connection
Misinformation narratives	"Vaccines cause infertility", "Herbs cure all diseases", "Hospitals kill"
Decision-making dynamics	Influenced by elders, gender roles, and peer opinion

Interpretation: Five key themes emerged from interviews and FGDs. Sources of misinformation were primarily social settings, including religious gatherings and market environments. Participants emphasized the credibility and emotional resonance of information delivered in indigenous languages, which often overshadowed the accuracy of the message itself. Traditional health systems were trusted due to cultural familiarity and spiritual significance. Common misinformation narratives included beliefs that vaccines cause infertility, herbs cure all ailments, and hospitals are unsafe. Healthcare decisions were often influenced by community elders, gender roles, and peer opinion, demonstrating complex interpersonal dynamics.

Discussion

This study provides critical insights into how health-related misinformation—particularly when conveyed in indigenous languages—significantly influences healthcare decisions in rural Nigeria. Our mixed-methods findings highlight the profound role of language, education, and cultural trust systems in shaping public health behaviors.

The high prevalence of misinformation exposure (67.1%) reflects an alarming saturation of misleading health messages within these communities. The predominance of indigenous language as the medium of misinformation (47.3%) underscores its potent persuasive power, especially in settings with low health literacy. This aligns with previous studies emphasizing that messages in native tongues are often perceived as more trustworthy and easier to internalize, particularly among non-literate populations (Adebayo *et al*., 2020; Odugbemi & Oyesomi, 2022).

A particularly concerning outcome is the strong association between misinformation exposure and preference for traditional healers**.** Exposed individuals were over three times more likely to consult traditional practitioners, a finding corroborated by other Nigerian studies linking misinformation with avoidance of formal health services (Umeokonkwo *et al*., 2019). The regression results further suggest that education serves as a protective factor, as those with no formal education had significantly higher odds of relying on traditional medicine.

Our qualitative data reveal the deep cultural embedding of trust in traditional knowledge systems**,** amplified when information is delivered in indigenous languages. Misinformation narratives—such as the belief that vaccines cause infertility or that hospitals are places of harm—persist partly because they are emotionally resonant and contextually familiar, often passed through trusted community figures like elders and religious leaders. These findings resonate with theories of cultural cognition and emotional framing, which suggest that people interpret risk-related messages through the lens of their cultural worldviews (Kahan *et al*., 2011).

The implications of these findings are profound. First, public health communication strategies must incorporate indigenous languages, not just to counter misinformation, but to proactively build trust in evidence-based health services. However, simply translating content is insufficient—messages must be culturally relevant, delivered by trusted local voices, and designed to address the specific fears and myths circulating in each community.

Second, community-based health education programs need to engage traditional leaders and healers as allies rather than adversaries. These actors hold significant influence and could serve as powerful conduits for correcting misinformation if properly equipped and incentivized.

Finally, the study reinforces the need for media literacy and grassroots health literacy campaigns**,** especially among women and low-education groups who are disproportionately affected by misinformation. Such

interventions should combine interpersonal, radio, and community theater approaches, given the oral and communal nature of information sharing in rural Nigeria.

Conclusion

This study demonstrates that health-related misinformation communicated in indigenous languages plays a significant role in shaping healthcare decisions in rural Nigerian communities. Exposure to misinformation was strongly associated with increased reliance on traditional healers and decreased use of formal healthcare services. These patterns were especially prominent among individuals with limited education and those receiving information primarily in indigenous languages.

The findings reveal that language is not merely a medium of communication, but a powerful vector of trust, particularly in culturally embedded environments. When misinformation is conveyed in familiar tongues by respected figures within the community, it becomes more believable and influential—often overriding formal health advice. Without targeted intervention, this dynamic may continue to undermine public health efforts and exacerbate health disparities in rural areas.

Recommendations

Based on the findings, the following recommendations are proposed:

1. **Develop culturally adapted health communication strategies**

a. Public health agencies should produce evidence-based messages in indigenous languages, crafted in collaboration with linguists, local health workers, and community leaders.

b. Messages must directly address prevalent myths and misinformation narratives in a context-sensitive manner.

2. **Engage community influencers as health ambassadors**

a. Traditional leaders, healers, and religious figures should be trained and mobilized to disseminate accurate health information, leveraging their existing trust networks.

b. Health campaigns should be community-owned and peer-led to foster credibility.

3. **Integrate health and media literacy in rural education programs**

a. Community-based education should emphasize critical evaluation of health information, with special attention to oral and informal channels like gossip, religious sermons, and local radio.

b. Functional literacy programs should include health content and be tailored to women and older adults who are key health decision-makers.

4. **Strengthen surveillance and rapid response to misinformation**

a. Establish local rumor-tracking mechanisms through WhatsApp groups, community monitors, or existing ward health structures.

b. Collaborate with local radio stations and mobile platforms to counter misinformation in real-time.

5. Support further research and policy integration

a. Policymakers should fund longitudinal studies to better understand how misinformation spreads over time and influences health outcomes.

b. Health policy frameworks should formally incorporate misinformation mitigation strategies, especially in contexts of linguistic and cultural diversity.

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