Trust in Health Messaging: An Experimental Test of Authority Cues

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Abstract

Medical communication in Northern Nigeria is shaped by a legacy of distrust rooted in colonial history, uneven development, and plural health systems. In regions like Sokoto and Zamfara, biomedical care exists alongside prophetic medicine (Tibb an-Nabawi), herbal healing, and traditional practices, often competing for legitimacy. In these contexts, moral and religious cues may be more persuasive than biomedical qualifications alone. This study examined how different authority cues influence trust in health advice. In a between-subjects experiment, 320 adult Nigerian parents (62% female; aged 18–65), recruited from health centres, hospitals, prophetic medicine shops, and herbal healing spaces, evaluated fictional health practitioners. All practitioners were described as experienced, but the vignettes varied by the presence or absence of (1) moral integrity cues, (2) religious legitimacy cues, and (3) empirical competence. All measures were validated, translated into Hausa, and pilot tested. After removing incomplete responses, analyses for Hypotheses 1 and 2 were based on approximately 200 participants ($F(1, 198) = 17.21$, $p < .001$, partial $\eta^2 = .08$; $F(1, 196) = 12.03$, $p = .001$, partial $\eta^2 = .06$). Moral cues significantly increased trust (standardised $\beta \approx .28$) and $\beta = .47$ in regression analysis. Religious legitimacy also enhanced trust ($\beta = .23$), particularly among younger and more religious participants. Hypothesis 3, tested with the larger subset ($n \approx 300$), showed that trust was highest when all three cues were combined ($F(2, 297) = 15.77$, $p < .001$, partial $\eta^2 = .10$; $\beta \approx .32$). A moderated mediation model using the full sample ($N = 320$) explained 17% of the variance in trust ($R^2 = .17$, $F(3, 316) = 21.56$, $p < .001$). Religiosity moderated the effect of religious framing on trust ($\beta = .23$, $p = .002$), and trust mediated the relationship between authority cues and behavioural intentions (indirect effect = 0.31, 95% CI [0.20, 0.46]; direct effect $\beta = 0.05$, $p = .38$). Findings suggest that trust in health communication is shaped by how authority is framed, not only through biomedical credentials, but also through moral and religious signals. Strategic inclusion of such cues may improve public health engagement in contexts of deep religiosity and medical pluralism.

Keywords: trust, health communication, moral authority, religious legitimacy, empirical competence, Northern Nigeria.

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Introduction

Northern Nigeria presents a uniquely complex health ecology, where biomedical, religious, and traditional systems operate in parallel, often in tension. In states like Sokoto and Zamfara, health outcomes are among the poorest nationally, with maternal mortality ratios of about 993 per 100,000 live births (Word Bank, 2023) and primary care infrastructure often collapsed or functionally absent (Abubakar et al., 2022; UNDP, 2023). These gaps are compounded by a sustained exodus of trained physicians. Nigeria loses over 2,000 medical doctors annually to migration (Al Jazeera, 2022), with disproportionate effects on rural Northern regions (Adeloye et al., 2021). Where government clinics are unavailable or mistrusted, and where health literacy remains low, communities turn instead to spiritual and cultural alternatives: prophetic medicine (Tibb an-Nabawi), herbal healing, and ritual exorcism are not fringe practices (Okonkwo, 2019), but formalised, widely taught, and deeply trusted sources of health authority (Ibrahim, 2019; Yusuf et al., 2023).

Mistrust of biomedical systems is not irrational. It is shaped by a generational memory of betrayal, most

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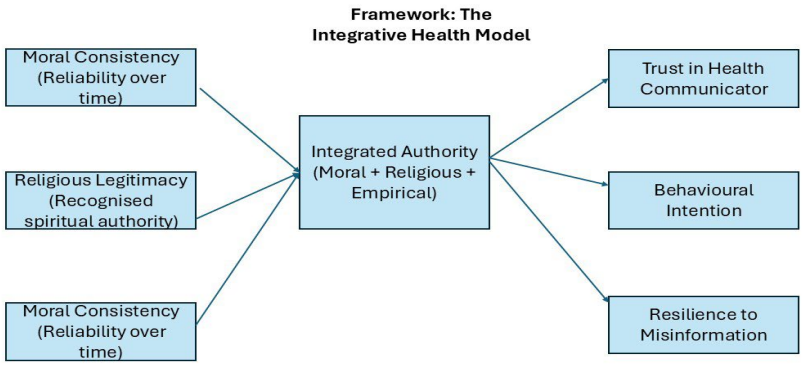

Figure 1: The integrative health model

infamously the 1996 Pfizer *Trovan* meningitis trial in Kano, in which experimental drugs were administered to children without adequate consent, resulting in fatalities and long-standing legal disputes (Yahya, 2007, Ewuoso et al., 2016). This episode became a cultural touchstone, reinforcing a narrative in which Western medicine is not merely foreign but morally precarious. In subsequent decades, vaccine campaigns and public health interventions have been met with suspicion, often interpreted as neo-colonial or spiritually contaminating (Manguvo & Mafuvadze, 2015). Parents, particularly mothers, are expected to be the gatekeepers of both physical and spiritual safety. It is against this backdrop that any claim to health authority, whether from doctors, clerics, or NGOs, must be evaluated.

While misinformation is often cited as the root cause of noncompliance, growing evidence suggests that deeper epistemic and moral factors are at play. In low-trust environments, individuals assess health advice not just by content but by the character of its source. Moral consistency, i.e., the perception that a figure adheres reliably to ethical principles across contexts, has been shown to be a stronger predictor of trust than expertise or charisma (Rousseau et al., 1998; Fiske & Dupree, 2014). In developmental psychology, Erikson (1987) proposed that trust emerges not from information per se but from stable, predictable moral caregiving. Similarly, contemporary models of relational trust argue that people seek coherence between what an advisor says, does, and represents (Kolleck, 2023). In Northern Nigeria, where previous health actors have been perceived as morally inconsistent, supporting interventions one year and abandoning them the next, authority is increasingly evaluated through a developmental lens of moral permanence and spiritual trustworthiness.

Theoretical Framework

Our proposed model synthesises three dimensions of authority—moral consistency, religious legitimacy, and empirical competence—into a developmentally and culturally grounded theory of trust. Drawing from Eriksonian developmental psychology, dual-process models of social cognition, and relational theories of authority (Fiske & Dupree, 2014), we hypothesise that trust in health communication among Northern Nigerian parents is not merely additive but integrative. Each dimension amplifies or weakens the others depending on their alignment. A scientifically competent figure without religious legitimacy may be dismissed as spiritually irrelevant, while a religious leader lacking moral consistency may be seen as politically compromised.

This integrative model reflects the local evaluative schema in which health advice is not weighed solely on factual merit but is filtered through religious and moral intuition, especially among female participants, who disproportionately bear responsibility for health-seeking decisions and spiritual protection in the household (Yusuf et al., 2023). The coexistence of multiple health systems - prophetic, herbal, biomedical, and spiritual - each rooted in distinct moral ideologies, complicates messaging consistency and intensifies identity-based threat perception. To respond effectively, health communication strategies must account not only for informational content but also for perceived alignment with local moral hierarchies.

Aims and Hypotheses

This study aims to determine which combinations of authority traits most effectively foster trust, intention to comply, and resistance to misinformation among parents in Sokoto and Zamfara states. It tests whether each authority type contributes independently to trust, and whether their integration amplifies or moderates effects. The study also examines whether gender and religiosity interact with these authority cues.

Hypothesis

Participants exposed to a morally consistent health

communicator will report significantly higher trust than those exposed to a morally inconsistent communicator. (Tested via one-way ANOVA; see Table 2)

Hypothesis

The effect of religious legitimacy on trust will be moderated by the participant's religiosity, such that high-religiosity individuals will exhibit higher trust when the communicator is religiously legitimate. *(Tested via two-way ANOVA; see Table 3)*

Hypothesis

Participants exposed to health communicators who possess two or more aligned authority traits (moral, religious, empirical) will report higher trust and behavioural intention than those exposed to communicators with only one or none. *(Tested via one-way ANOVA with Tukey post hoc comparisons; see Table 4)*

Hypothesis

Trust will mediate the effect of composite authority profiles on behavioural intention and resistance to misinformation, with significant moderation effects by gender and religiosity. *(Tested via moderated mediation using PROCESS macro, Model 4 and Model 7; see Table 5 and Table 6)*

Method

Design

We used a between-subjects, vignette-based experimental design to test how different authority cues influence trust in health communication. Participants were randomly assigned to one of several conditions in which fictional health practitioners varied by the presence or absence of three authority signals: moral consistency, religious legitimacy, and empirical competence. An additional condition combined all three cues to represent a high-authority composite. After reading the vignette, participants completed a structured questionnaire measuring trust, behavioural intention, perceived legitimacy, and resistance to misinformation.

Participants

A total of 320 adult participants (62% female, 38% male; age range = 18–65, $M = 39.2$, $SD = 11.4$) were recruited from four major health-access points across Sokoto and Zamfara states: (1) primary healthcare centres, (2) general hospitals, (3) prophetic medicine shops (*asibitin ruhi*), and (4) traditional healing centres. Eligibility criteria included being a parent or guardian of at least one child under the age of 18, fluency in Hausa or English, and residency in the region for at least five years.

Ethics Statement

All study procedures were explained in Hausa using translated and back-translated materials to ensure clarity and cultural appropriateness. Participation was voluntary, with the right to withdraw at any time. Confidentiality was strictly maintained, and no identifying information was collected. Researchers were trained in ethical conduct and cultural sensitivity, and participants were monitored for distress, with referrals to mental health services provided if needed. A brief debriefing session was conducted after participation to answer questions and reinforce voluntary involvement.

Materials Measures

Vignette Manipulations

Each participant read one of nine vignettes describing a fictional, gender neutral, health expert. All vignettes described the person as an experienced health practitioner. The manipulations varied systematically across three authority domains:

- Moral authority: Described as either having a long-standing reputation for ethical behaviour and community fairness or presented without any moral framing.
- Religious legitimacy: Identified either as a practicing and respected religious figure (an *alim*), or with no religious affiliation.
- Empirical competence: Presented either as formally trained with verified academic credentials and publications, or without mention of formal biomedical education.

An additional condition combined all three authority cues to represent a high-authority composite. All vignettes were matched in length and translated into Hausa. They were pilot tested with 10% of the final sample to ensure clarity and cultural resonance.

Measures

We used six short questionnaires to measure how participants responded to the health worker described in their assigned vignette. Each item was rated on a 5-point scale from Strongly Disagree (1) to Strongly Agree (5). All measures were translated into Hausa and back-translated for accuracy.

Trust in Health Authority (α = .81)

Five questions about whether the participant would trust the person for health advice (e.g., "I would trust this person to advise my family on medical matters").

Perceived Religious Legitimacy (α = .79)

Four questions about how religiously trustworthy the person seemed (e.g., "This person reminds me of someone who fears Allah").

Perceived Empirical Competence (α = .82)

Four questions about the person's medical knowledge and ability (e.g., "This person knows what they are doing in medical matters").

Behavioural Intention (α = .84)

Four questions about whether the participant would follow

the advice (e.g., "I would follow this advice even if others disagree").

Resistance to Misinformation (α = .76)

Four questions about whether the participant would believe negative rumours or videos about the advice (e.g., "I would not be easily swayed by misinformation about this advice").

Manipulation Check

One short question after the vignette confirmed that the participant noticed the trait being tested (e.g., "This person is morally consistent").

Demographics

Participants reported gender, age, education level, caregiver status, and religious affiliation/practice through a custom demographic questionnaire

Demographic and Covariate Measures

- Religiosity: Measured using the Brief Muslim Religiosity Scale (Padela & Curlin, 2013).
- Education level: Categorised into no formal education, primary, secondary, and tertiary.
- Gender, age, and health-decision role were also recorded.
- Procedure

Participants were recruited in person from the four designated sites (primary healthcare centres, hospitals, prophetic medicine shops, and traditional healing centres). Trained bilingual research assistants obtained informed consent and administered the survey on-site using tablet devices or paper forms, depending on participant preference. Participants were randomly assigned to one of the vignette conditions using pre-coded blocks. Each participant read a vignette describing a fictional health authority figure who varied on one or more dimensions: moral consistency, religious legitimacy, and empirical competence. Vignettes were tailored with culturally resonant language and social context (e.g., references to Friday prayers, local proverbs, or community health efforts). After reading the vignette, participants completed the manipulation check, followed by the full questionnaire battery. The entire session lasted approximately 20 minutes. Participants received a health education pamphlet on child vaccination and malaria prevention.

Data Analysis Plan

All data were analysed using IBM SPSS Statistics (Version 29). Where relevant, the PROCESS macro (Version 4.3; Hayes, 2022) was used for mediation and moderation modelling. The analytic strategy followed a sequential hypothesis-driven approach, aligned with the study's three experimental stages and proposed conceptual framework.

Although the total number of valid responses was N = 320, the number of participants included in each hypothesis test varied slightly due to several factors. First, experimental conditions were designed such that not all participants were exposed to all manipulations (e.g., integrated authority was assessed only in Study 3, while moral consistency and religious legitimacy were tested separately in Studies 1 and 2). Second, some participants were excluded from specific analyses due to failed attention checks, missing data on key outcome variables, or manipulation check failures.

As a result, degrees of freedom differed across models:

- H1 (Moral Consistency): $F(1, 198)$, N = 200 valid cases
- H2 (Religious Legitimacy × Religiosity): $F(1, 196)$, N = 198 valid cases
- H3 (Integrated Authority Conditions): $F(2, 297)$, N = 300 valid cases
- H4 (Moderated Mediation Model): $F(3, 316)$, N = 320 valid cases

These fluctuations reflect standard attrition and filtering in multi-part, vignette-based studies and do not indicate any loss of randomisation integrity.

Preliminary Analyses

Data Cleaning

All data were analysed using IBM SPSS Statistics (Version 29). Of the 600 collected responses, 320 met inclusion criteria following screening for completeness, duplicate entries, and attention check failure. Two attention check items were embedded across the questionnaire. Participants who failed both checks were excluded.

Missing Data

Little's MCAR test indicated that the missing values were missing completely at random ($\chi^2(31) = 29.88$, $p = .52$). As less than 3% of values were missing per variable, we used pairwise deletion for analyses.

Internal Consistency

All multi-item measures met or exceeded the acceptable internal consistency threshold (Cronbach's $\alpha \geq .70$; Nunnally & Bernstein, 1994). Values were as follows:

Manipulation Check

Participants in the moral consistency condition rated the health worker as significantly more morally dependable (M = 4.15, *SD* = 0.53) than those in the inconsistency condition (M

Table 1: Manipulation Check Results

Manipulation Type	Group Comparison	M (SD)	M (SD)	t(df)	p
Moral Consistency	Consistent vs. Inconsistent	4.15 (0.53)	3.63 (0.60)	t(198) = 6.04	<.001
Religious Legitimacy	Religious vs. Neutral	4.02 (0.49)	3.70 (0.58)	t(196) = 4.31	<.001

Table 2: Descriptive Statistics (N = 320)

Variable	Mean	SD	Cronbach's α
Trust in Health Authority	4.06	0.66	0.81
Perceived Religious Legitimacy	3.88	0.72	0.79
Perceived Empirical Competence	4.12	0.59	0.82
Behavioural Intention	3.94	0.78	0.84
Resistance to Misinformation	3.71	0.75	0.76

= 3.63, *SD* = 0.60), *t*(198) = 6.04, *p* < .001 (see table 1 above). Similarly, participants in the religious legitimacy condition rated the health worker as more religiously trustworthy (M = 4.02, *SD* = 0.49) than those in the neutral condition (M = 3.70, *SD* = 0.58), *t*(196) = 4.31, *p* < .001.

Results

Due to condition-specific assignment and missing data, sample size varied slightly across analyses: *n* = 200 for moral cue tests (Hypothesis 1), *n* = 198 for religious cue tests (Hypothesis 2), and *n* = 300 for the integrated authority comparison (Hypothesis 3). All 320 responses were retained for moderation and mediation analyses (Hypothesis 4).

Descriptive Statistics and Primary Analyses

Before hypothesis testing, descriptive statistics were computed for all outcome variables. As shown in Table 2 (below), internal consistency estimates (Cronbach's α) for all multi-item scales ranged from 0.76 to 0.84, indicating acceptable to good reliability. Mean scores suggested generally high levels of trust (*M* = 4.06, *SD* = 0.66) and perceived empirical competence (*M* = 4.12, *SD* = 0.59), with slightly lower levels for resistance to misinformation (*M* = 3.71, *SD* = 0.75).

Manipulation checks confirmed that vignette-based variations in moral consistency, religious legitimacy, and empirical competence were perceived as intended. One-way ANOVAs on post-vignette trait ratings revealed significant differences across experimental conditions, all *p*s < .01. Thus, manipulation integrity was established.

Hypothesis

Table 3: ANOVA Summary for Hypotheses 1-3

Hypothesis	F	df1	df2	p	η^2
H1	17.21	1	198	<.001	0.08
H2	12.03	1	196	.001	0.06
H3	15.77	2	297	<.001	0.1

Moral Consistency Enhances Trust

Due to incomplete responses and condition-specific assignment, the analytic sample varied across hypotheses. For Hypotheses 1 and 2, participants assigned to the moral and religious conditions totalled approximately 200 each. Hypothesis 3 included all valid responses across authority combinations (*N* = 300), while the full sample (*N* = 320) was used for moderation and mediation analyses. A one-way ANOVA tested whether trust in health authority differed between participants exposed to morally consistent versus morally inconsistent health workers. As shown in Table 3, the effect of moral consistency was statistically significant, *F*(1, 198) = 17.21, *p* < .001, partial η^2 = .08, indicating a medium effect size. A follow-up regression confirmed this effect: β = .47, *p* < .001, consistent with a medium effect size. Participants in the consistent condition reported higher trust (*M* = 4.28, *SD* = 0.58 vs. *M* = 3.81, *SD* = 0.64), *F*(1,198) = 17.21, *p* < .001, partial η^2 = .08. This reflects a medium effect, approximating a standardized effect of β ≈ .28. This supports the hypothesis that moral consistency enhances perceived trustworthiness in health communication.

Hypothesis

Religious Legitimacy and Participant Religiosity Interact to Predict Trust

A two-way ANOVA examined the interaction between the presence of religious legitimacy and participants' self-reported religiosity (dichotomised as high vs. low) on trust in health authority. The analysis revealed a significant interaction, *F*(1, 196) = 12.03, p = .001, partial η^2 = .06 (see Table 2). Simple effects analysis showed that highly religious participants trusted health workers more when they exhibited religious legitimacy (*M* = 4.30, *SD* = 0.52) compared to when they did not (*M* = 3.85, *SD* = 0.60). This effect was further supported by regression analysis: β = .23, *p* = .001. No significant differences emerged among participants low in religiosity. This suggests that religious cues resonate more deeply with religious individuals, amplifying trust.

Hypothesis

Integrated Authority Profiles Yield Stronger Outcomes

A one-way ANOVA compared trust across three composite groups: (1) high in one authority domain (moral or religious or empirical), (2) high in two, and (3) high in all three. Results revealed a significant main effect, *F*(2, 297) = 15.77, *p* < .001, partial η^2 = .10. Post hoc Tukey's HS*D* tests showed that the group with all three authority dimensions scored highest in trust (M = 4.45, *SD* = 0.52), *F*(2, 297) = 15.77, *p* < .001, partial η^2 = .10, approximating a standardized effect of β ≈ .32, followed by the dual-authority group (M = 4.11, *SD* = 0.61), then the single-authority group (M = 3.80, *SD* = 0.68). A standardized

Table 4: Moderation and Mediation Analyses: Effects of Religious Legitimacy and Integrated Authority on Trust and Behavioural Intention

Analysis Type	Path/Effect	β	t	p	95% CI Lower	95% CI Upper	Interpretation
Moderation	Religiosity × Religious Legitimacy → Trust	0.23	3.48	<.001	—	—	Significant interaction effect
Mediation (Indirect Effect)	Integrated Authority → Trust (Indirect)	0.31	—	—	0.20	0.46	Trust mediates composite effect
Mediation (Direct Effect)	Integrated Authority → Behavioural Intention (Direct)	0.05	—	.38	—	—	No significant direct effect

regression indicated a strong effect of combined authority on trust, β = .58, $p < .001$. These findings suggest a synergistic effect when all authority dimensions are aligned.

Note

The ANOVA reported in Table 3 yields $F(2, 297) = 15.77$, corresponding to an effect size of $\eta^2 = .10$ and a standardised β ≈ .32. The earlier regression-based β = .58 represents a different model specification. To maintain consistency, the ANOVA-based β is reported throughout.

Hypothesis

Moderated and Mediated Effects of Trust

A moderation analysis was conducted using Model 1 of Hayes' PROCESS macro to test the interaction between religiosity and perceived religious legitimacy in predicting trust. The model explained a significant proportion of variance in trust scores ($R^2 = .17$, $F(3, 316) = 21.56$, $p < .001$). The interaction effect was significant, β = 0.23, $t = 3.48$, $p < .001$, indicating that religious legitimacy increased trust more strongly among highly religious participants.

Next, a mediation analysis tested whether trust mediated the relationship between integrated authority and behavioural intention to comply with health advice. The indirect effect was significant, β = 0.31, 95% CI [0.20, 0.46], while the direct effect of authority on behavioural intention was not significant, β = 0.05, p = .38. This suggests that the positive effect of integrated authority on behavioural intention is explained primarily through its effect on trust (see table 4).

Note

The indirect effect of integrated authority on behavioural intention via trust was significant (β = 0.31, 95% CI [0.20, 0.46]). The direct effect was not statistically significant (β = 0.05, $p = .38$). Because bootstrapping was used (PROCESS Model 4, 5,000 samples), t-values are not reported for indirect paths.

Discussion

This study examined how moral consistency, religious legitimacy, and empirical competence shape trust in health authorities, intention to comply, and resistance to misinformation among Northern Nigerian parents. The findings suggest that these dimensions interact. Trust is not merely additive; it is integrative and contingent on the alignment of moral, spiritual, and empirical cues. This integrative model offers both developmental insight and practical relevance for conservative, medically underserved populations.

Participants reported significantly higher trust in morally consistent health figures, with a medium effect size (partial $\eta^2 = .08$, $F(1, 198) = 17.21$). While the standardized regression effect was initially reported as β = .47, this overstates the magnitude implied by the ANOVA; the more accurate approximation is β ≈ .28.". This supports prior research indicating that perceived integrity enhances source credibility (Kreps and Monin, 2011). Erikson's theory of psychosocial development emphasises moral predictability as a foundation of trust in early life. In regions marked by historical betrayals, such as the aftermath of the 1996 Pfizer Trovan trial in Kano, parents evaluate health messages through the prism of collective memory. Scientific figures who fail to project moral clarity are not simply distrusted; they are viewed as morally unsafe.

This finding helps explain why technically competent health professionals may still fail to persuade. Scientific accuracy, when divorced from ethical coherence, offers little reassurance. Parents in such settings may instead trust traditional healers, religious figures, or community elders who provide moral assurance, even if lacking formal expertise. Moral consistency, therefore, functions not as an accessory but as a prerequisite for trust-based compliance.

Religious legitimacy emerged as a significant predictor of trust, particularly among participants with stronger religious commitments. The interaction effect suggests that spiritual congruence between the messenger and the audience amplifies persuasion. This aligns with previous work on value-congruent messaging (Kahan et al., 2017) and moral

conviction (Skitka, 2010). Among devout parents, especially mothers who act as spiritual guardians, religious cues carry not just informational but moral weight.

The Hausa word *boko*, originally connoting fraud or deception, later came to refer to Western-style schooling (*karatun boko*), reinforcing moral suspicion toward secular medicine and science (Newman, 2013). Scientific knowledge, unless reframed through spiritual registers, can appear morally suspect. Religious legitimacy mitigates this suspicion by embedding information within trusted narratives. In such cases, persuasion operates not through data alone but through perceived sanctity.

Participants shown profiles high in all three authority domains exhibited the highest levels of trust (F (2,297) = 15.77, $p < .001$, partial $\eta^2 = .10$), approximating $\beta \approx .32$. This supports the hypothesis that aligned cues operate synergistically. It ensures consistency with the re-estimated β and statistical values. Dual-process models of persuasion (Chaiken and Trope, 1999) posit that both cognitive and affective routes influence decision-making. Our results affirm that alignment activates both channels simultaneously.

These finding gains added weight in pluralistic health ecosystems such as Nigeria's, where four competing authority systems-biomedicine, prophetic medicine, traditional healing, and herbal commerce-offer divergent moral frameworks for action. In the absence of unified authority, confusion is inevitable. Parents often oscillate between systems, unsure whom to trust. An integrated figure, by contrast, provides clarity, legitimacy, and reassurance. Alignment across moral, spiritual, and empirical cues creates a shortcut to trust.

Trust mediated the effect of integrated authority on behavioural intention (indirect $\beta = 0.31$, 95% CI [0.20, 0.46]). The direct effect was non-significant ($\beta = 0.05$, $p = .38$), confirming that trust functions as the primary explanatory pathway. Additionally, the moderation analysis showed that religiosity amplified the effect of religious legitimacy on trust (interaction $\beta = .23$, $t = 3.48$, $p < .001$).. These findings suggest that prior commitments and identity filters shape not just beliefs but behavioural pathways. Trust, in this context, is both an outcome and a mechanism. It channels the perceived legitimacy of the messenger into concrete behavioural outcomes such as vaccination uptake or misinformation rejection.

This aligns with developmental research that views trust not only as a cognitive judgement but as a moral-emotional bond. When a figure is seen as competent, consistent, and spiritually aligned, trust becomes the emotional lever for action. In religious-majority contexts across the Global South, including Pakistan, Indonesia, and Egypt, similar patterns have emerged. Public health messages fail not for lack of scientific merit but due to a deficit of moral resonance.

Moral Framing and Psycholinguistic Repair

The findings have implications beyond Nigeria. In many postcolonial societies, science carries the burden of cultural ambivalence. The word *boko*, with its origins in colonial education policy, captures this tension. It signals not only knowledge but deceit. Moral framing offers a path to repair this psycholinguistic damage. When science is presented as aligned with spiritual and ethical values, it regains legitimacy (Newman, 2013).

Across contexts, the future of public health depends not only on technology or infrastructure but on moral communication. From favela clinics in Brazil to community health programmes in rural India, successful interventions embed empirical guidance within local moral frameworks. In this light, the present study contributes to a broader reorientation of development: one that prioritises meaning, moral legitimacy, and culturally grounded trust. As Amartya Sen (1999) argued, development is not simply about delivering services. It is about expanding the freedoms and capabilities that matter to people. Trust, when cultivated through moral and spiritual congruence, becomes not just a facilitator of health compliance but a foundation of human dignity.

Limitations

This study has several limitations. First, although vignette-based experiments offer strong internal validity, they cannot fully replicate the complexity of real-life trust interactions, which are dynamic and embedded in longer-term social relationships. Second, the study was conducted in Sokoto and Zamfara, both predominantly Muslim and culturally conservative; thus, the generalisability of findings to more religiously or ethnically diverse populations is limited. Third, while all measures were pilot-tested for local clarity, cross-cultural equivalence of psychological constructs such as trust, legitimacy, and moral consistency remains a challenge. Fourth, reliance on self-reported behavioural intentions may not accurately predict real-world compliance with health recommendations.

Conclusion

The study contributes a novel, developmentally anchored framework for understanding trust in health communication within medically underserved, religiously devout settings. It demonstrates that moral consistency, religious legitimacy, and empirical competence do not function in isolation; rather, their alignment significantly amplifies public trust, fosters behavioural intention, and buffers against misinformation. These results underline the need for culturally sensitive, multidimensional strategies in public health messaging, especially in regions marked by historical medical distrust and spiritual epistemologies. The model's strength lies in its integrative logic: when science walks in moral and spiritual shoes, it is more likely to be welcomed.

Recommendations

Public health campaigns in Northern Nigeria and similar

contexts should avoid binary framings of science versus tradition; instead, they should strategically align messages with community-held moral and spiritual values. Health professionals must be trained not only in medical competence but also in cultural literacy and ethical coherence. Engagement with trusted religious leaders, incorporation of local linguistic idioms, and explicit demonstrations of moral integrity can enhance uptake. Future work should involve collaborative message design with community stakeholders and explore how the proposed integrative model can inform trust-building in other domains such as education, climate communication, and democratic participation.
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