

RESEARCH ARTICLE

Social trust construction and media roles: A comparative study of trust transmission mechanisms in COVID-19 prevention and control reporting between Chinese and Malaysian media

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ABSTRACT

This study conducts a cross-national comparative analysis of trust transmission mechanisms in COVID-19 prevention and control reporting between China's People's Daily and Malaysia's The Star, employing quantitative content analysis to systematically examine front-page news coverage from January 5, 2020, to May 5, 2023, with supplementary verification questionnaire surveys targeting 200 audiences to validate content analysis findings. The research develops a comprehensive analytical framework encompassing information source strategies, news frame construction, prevention strategy reporting patterns, and target group positioning, utilizing advanced statistical methods including multiple regression analysis, chi-square tests, and path analysis to reveal systematic differences in media trust construction mechanisms across distinct institutional environments. The empirical findings demonstrate: First, information source strategies constitute the fundamental determinant of trust transmission effectiveness, with primary information sources exhibiting significant negative correlation with news frame diversity ($\beta=-0.069$, $t=-2.764$, $p<0.01$) while showing positive correlation with policy-focused news content ($\beta=0.342$, $t=12.567$, $p<0.001$). Second, national institutional backgrounds fundamentally regulate media trust transmission patterns, with People's Daily demonstrating an authoritative centralization model achieving 78.5% primary source usage and government institution dependence of 45.8%, while The Star exhibits a pluralistic diversification model with 3.47 average sources per report and balanced frame distribution. Third, strategic alignment between prevention measures and target groups significantly enhances trust optimization effects ($\beta=0.742$, $F=89.456$, $p<0.001$), with target group diversity demonstrating superior predictive capacity for prevention measure scope expansion ($\beta=0.587$, $t=26.234$, $p<0.001$) compared to intervention strategy complexity. Fourth, differentiated media role positioning generates distinct trust effect pathways, with official media constructing institutional authority-based trust through government credibility perception (correlation $r=0.687$, $p<0.001$), while commercial media establish professional competence-based trust through information objectivity and balance perceptions. This research provides crucial empirical evidence for understanding cross-cultural media trust construction mechanisms during global public health crises, offering theoretical foundations and practical guidance for optimizing crisis communication strategies and enhancing media social trust functions under different institutional contexts.

Keywords: social trust construction; media roles; trust transmission mechanisms; cross-cultural comparison; COVID-19 prevention and control reporting; quantitative content analysis

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1. Introduction

COVID-19, as the largest global public health crisis in human history, has not only caused tremendous impacts on global economic and social development but has also profoundly affected social trust systems. Under this special environmental stress condition, media, as important carriers of information dissemination and key mechanisms for social psychological regulation, have undergone significant changes in their roles and functions. Tan Jingyue (2024) points out that in public emergencies, there exists a complex interactive relationship between media roles and social trust, with media serving not only as information disseminators but also as builders and maintainers of social trust ^[1]. However, under globalization, significant differences exist in media systems, cultural backgrounds, and institutional environments across different countries and regions, and these differences directly influence media trust construction strategies and effectiveness in crisis communication. Social trust, as an important foundation for social cohesion and collective action capacity, warrants in-depth exploration of its construction and maintenance mechanisms under environmental crises. Research by Doyle and Hao (2025) demonstrates that environmental pessimism significantly undermines social trust and willingness for environmental protection, suggesting that when facing global environmental crises, media bear crucial responsibilities in shaping public cognition and maintaining social trust ^[2].

Media trust, as an important component of the social trust system, faces unprecedented challenges and opportunities in the digital and intelligent era. Peng Huaxin and Wang Liang (2024), in their study of trust relationships in social media, found that rhetorical dilemmas exist in modern media environments, and these dilemmas not only affect information dissemination effectiveness but also have profound social consequences for social trust construction ^[3]. In the media ecology where traditional and new media coexist, the construction of media credibility faces complex challenges. Empirical research by Ren Yidan and Zhang Lianghua (2023) based on the Chinese Social Survey shows significant correlations between internet usage levels, internal political efficacy, and media trust, indicating that media trust formation depends not only on media performance itself but is also influenced by audience characteristics and social environment ^[4]. Ai Junqi and Zhang Hongliang (2023) further point out that in new media contexts, mainstream media's credibility construction needs to adapt to new communication environments and audience demands, maintaining and enhancing credibility through innovative communication strategies and content formats ^[5]. These studies provide important theoretical foundations for understanding media trust construction mechanisms, but research on media trust in cross-cultural comparisons and crisis communication contexts still requires further exploration.

The economic and social effects of social trust have received widespread attention, and the mechanisms of its action in different fields and contexts are increasingly valued. Research by M.P.G and other scholars (2025) in European banking confirmed that social trust levels significantly affect banking activities and financial market stability, indicating that social trust is not only a social psychological phenomenon but also an important factor affecting economic operations and social governance ^[6]. Research by Liu and Zhang (2025) further shows that social trust can promote enterprise participation in supply chain finance, demonstrating that trust as social capital plays an important role in modern economic activities ^[7]. In the global crisis of COVID-19, the importance of social trust becomes even more prominent, as it not only affects public cooperation with government prevention and control measures but also determines social cohesion and risk resistance capacity. Media, as important intermediaries in social trust construction, have their role positioning and strategic choices in crisis communication directly related to the maintenance and reconstruction of social trust. However, existing research mostly focuses on media phenomena in single countries or regions, lacking systematic cross-national comparative studies, particularly comparative

analyses of media trust transmission mechanisms under different cultural backgrounds and institutional environments.

Based on the above background, this study selects China's People's Daily and Malaysia's The Star as research subjects, conducting quantitative content analysis of both media outlets' COVID-19 prevention and control reporting from January 5, 2020, to May 5, 2023, to systematically compare differences in trust transmission mechanisms between the two countries' media. China and Malaysia, as two representative countries in Asia, exhibit significant differences in cultural traditions, political systems, and media systems, providing ideal cases for comparative research on cross-cultural media trust transmission mechanisms. People's Daily, as China's official mainstream media, represents a government-oriented authoritative information dissemination model; The Star, as Malaysia's major English commercial newspaper, embodies market-oriented diversified information dissemination characteristics. Through comparative analysis of differences between the two media outlets in information source selection, news frame construction, and prevention strategy reporting, this study aims to reveal patterns and mechanisms of media trust transmission under different cultural and institutional backgrounds, provide empirical evidence for understanding media's social psychological regulation functions under environmental crises, and offer theoretical guidance and practical references for optimizing crisis communication strategies and constructing more effective social trust systems.

2. Literature review

Social trust, as an important foundation for the functioning of modern society, has attracted widespread attention across multiple disciplines. Xie Jinwen and Wang Jianmei (2021) systematically reviewed research progress on social trust from a multidisciplinary perspective, arguing that social trust is an individual's cognitive evaluation of the predictability of social environment and others' behavior, with its formation being comprehensively influenced by multiple factors including institutional environment, cultural background, and individual experiences ^[8]. Dang Baobao and Zhou Yutian (2022) further analyzed the influence mechanisms of group trust from a social interaction perspective, pointing out that trust formation is a dynamic social construction process that needs to be reinforced and maintained through continuous interaction ^[9]. From a cross-cultural research perspective, Kim and other scholars (2025), based on large-scale survey data from 22 countries globally, found that childhood social environment and educational experiences have significant predictive effects on individuals' social trust perception in adulthood, indicating that social trust formation has profound cultural roots and life course characteristics ^[10]. Research by Blackwell and Swickert (2025) explored the relationship between mindfulness practice and social trust from a psychological perspective, finding that individuals' psychological states and cognitive patterns have important impacts on social trust levels ^[11]. These studies provide important theoretical foundations for understanding the multidimensional nature and complex formation mechanisms of social trust, while also revealing the necessity of studying social trust transmission mechanisms under different cultural and institutional backgrounds. Sun Dongshan and Lan Ming (2021), in analyzing social trust crises, pointed out that modern society faces challenges of trust deficiency, requiring trust repair and reconstruction through institutional innovation and improvement of social governance mechanisms ^[12].

Media, as important carriers of information dissemination and shapers of social opinion, play a crucial role in social trust construction. Jiang Yan (2023), based on empirical research from netizen social consciousness surveys, found that the public's social media usage patterns significantly affect their perception of government transparency, which in turn affects government trust levels, indicating a complex causal relationship between media use and social trust ^[13]. Liu Jianrong and Fu Rong (2023), through

analyzing the influence mechanisms of media use on Chinese citizens' judicial trust, found that social fairness perception plays an important mediating role between the two, with media influencing public trust levels in the judicial system by shaping their perception of social fairness [14]. Research by Hu Rong and Lin Binbin (2021) further confirmed this view, finding that media use affects police trust by influencing the public's sense of social fairness, with this influence mechanism showing significant differences across different groups [15]. Li Yanli (2022), from the perspective of the social media era, analyzed the influence mechanisms of netizen social trust formation, pointing out that the digital media environment has changed traditional pathways of trust formation, presenting new opportunities and challenges for trust construction [16]. Lin Li (2023) explored the relationship between social trust, media attention, and audit contract stability from an economic perspective, finding that media attention can affect the stability of economic activities by influencing social trust levels [17]. These studies fully demonstrate the central position of media in the social trust system, with media serving not only as information disseminators but also as builders and maintainers of social trust.

At the practical level of media trust construction, the mechanisms of new mainstream media have received special attention from scholars. Qiang Yuexin and Kong Yuqin (2021) analyzed the value construction function of new mainstream media from a social trust perspective, arguing that mainstream media construct and maintain social trust through authoritative, fair, and professional content production [18]. Gao Yahong and Xu Zhiwu (2022) further explored specific pathways for new mainstream media to enhance social trust levels, proposing that media should enhance public trust by improving reporting quality, increasing interactivity, and strengthening supervisory functions [19]. However, media trust construction also faces new challenges in the digital era. Li Mengbing and Wu Yong (2020), based on analysis of "deepfake" short videos, pointed out that the development of new media technologies brings new risks to social trust, with the spread of false information potentially seriously damaging media credibility [20]. Chen Yang (2020), in studying trust issues in online social media, also emphasized that the damage and reconstruction of media credibility is an important issue facing the digital era, requiring responses through technological innovation and institutional improvement [21]. These studies indicate that media trust construction is a complex systematic project, requiring not only media professionalization and standardization but also external environmental support and constraints. Under globalization and digitalization, media systems in different countries and regions may adopt different strategies and pathways in trust construction, providing important research space for cross-cultural comparative studies.

The action mechanisms and influence effects of social trust in specific contexts have also been thoroughly studied. Zhang and other scholars (2021), in analyzing netizen donation behavior during public health crises, found complex interactive relationships between social capital, government trust, and channel selection, indicating that the action mechanisms of social trust may change in crisis contexts [22]. Research by Fan and other scholars (2025) shows that social trust plays an important role in promoting corporate ESG (Environmental, Social, and Governance) performance, with sustainable development requiring trust as its foundation [23]. Liu and Wei (2025), through dual machine learning model analysis, found that alleviating energy poverty can significantly enhance China's social trust levels, indicating a close relationship between economic and social development levels and social trust [24]. Research by Jiang and other scholars (2025), based on studies of China's middle-aged and elderly population, found that internet use affects life satisfaction through the mediating effects of volunteer service and social trust, indicating that social trust plays an important role in individual well-being [25]. Research by García and other scholars (2025) explored the mechanisms of football clubs as sources of social trust and civic pride from a sports sociology perspective [26]. These studies confirm the important value and broad influence of social trust from different

angles, while also revealing the complexity and diversity of social trust action mechanisms under different contexts and cultural backgrounds. Particularly in global public health crises like COVID-19, media, as important platforms for information dissemination and social mobilization, play an increasingly prominent role in social trust construction and maintenance. Media in different countries may adopt different strategies to respond to crises and maintain social trust, and this diversity warrants in-depth research and comparative analysis.

Based on the aforementioned research gaps, this study selects China's People's Daily and Malaysia's The Star as comparative cases, and through a mixed-methods approach combining quantitative content analysis and questionnaire surveys, systematically compares the differences in trust transmission mechanisms between the two countries' media in COVID-19 prevention and control reporting, focusing on answering the following core questions: (1) What are the differences in media information source strategies under different institutional contexts? Specifically, what systematic differences do official media and commercial media exhibit in terms of the selection of primary and secondary information sources, the quantity and diversity of information sources, and the authority and balance of information sources? How do these differences reflect the constraints of institutional environments and the influence of media role positioning? (2) How do these differences affect news framing construction and prevention and control strategy reporting? Do differences in information source strategies lead to significant variations in news frame selection (such as responsibility attribution frames, policy introduction frames, humanistic care frames, etc.)? Are reporting contents such as the scope of prevention and control measures, types of intervention strategies, and target group positioning shaped by information source strategies and institutional environments? (3) What are the different trust effect pathways between official media and commercial media? From the audience perception perspective, what psychological mechanisms and communication pathways do institutionally authoritative media (such as People's Daily) and professionally balanced media (such as The Star) respectively rely on when constructing public trust? How do mediating variables such as authority perception, objectivity perception, government trust, and media trust function in different media types? (4) How can media trust construction strategies in crisis communication be optimized? Based on cross-national comparative findings, what experiences can media in different institutional environments draw from each other's strategies? During different stages of crisis communication (outbreak period, peak period, normalization period), how should media dynamically adjust information source allocation, frame selection, and content strategies to optimize trust transmission effects? By systematically addressing these questions, this study aims to reveal the patterns and mechanisms of media trust transmission under different cultural and institutional contexts, provide empirical evidence for understanding the social-psychological regulatory function of media during environmental crises, and offer theoretical guidance and practical references for optimizing crisis communication strategies and constructing more effective social trust systems. This not only fills the gap in cross-cultural media trust comparative research but also provides a scientific basis for optimizing media roles in global public health governance.

3. Research methods

3.1. Research design

This study employs a cross-national comparative quantitative content analysis research design, aiming to reveal the inherent patterns of media role positioning and social trust construction under different cultural and institutional backgrounds by systematically comparing the differences in trust transmission mechanisms in COVID-19 prevention and control reporting between mainstream media in China and Malaysia. The research selects China's People's Daily and Malaysia's The Star as analysis subjects, based on the following considerations: The two media outlets represent different media system types, with People's Daily as the

organ of the Communist Party of China embodying characteristics of government-led media, while The Star as Malaysia's major English commercial newspaper reflects the operational model of market-oriented media. China and Malaysia share similarities yet exhibit significant differences in cultural traditions, political systems, and economic development levels, providing ideal contrasting cases for cross-cultural comparative research. Both countries have commonalities and differences in COVID-19 response strategies and temporal milestones, facilitating analysis of media reporting strategic adjustments across different prevention and control phases [27].

The research timespan is set from January 5, 2020, to May 5, 2023, covering the complete cycle from pandemic outbreak and global pandemic to the post-pandemic era. This time period selection ensures the representativeness of research samples and comprehensiveness of analytical results. The analysis unit is determined as individual news reports, focusing on all front-page news about COVID-19 prevention and control from both media outlets. Front-page news is chosen because it possesses the highest salience and influence, best reflecting media agenda-setting and value orientation. The research adopts a complete sampling method, conducting full-sample analysis of all qualifying news within the research timespan, avoiding bias that might result from sampling errors. Methodologically, this study primarily employs quantitative content analysis, constructing a systematic coding framework to quantitatively measure news content, focusing on key variables such as information source types, news frame selection, prevention strategy reporting, target audience positioning, and measure scope [28]. To enhance external validity and result validation, the research also designs small-scale supplementary questionnaire surveys, measuring media trust perception among audiences in China and Malaysia to validate key patterns discovered through content analysis. The entire research design follows basic principles of comparative research, controlling for time variables and media type variables while highlighting the influence of national/cultural variables, thereby providing a scientific research framework for revealing differences in media trust transmission mechanisms under different institutional backgrounds.

3.2. Quantitative content analysis method

Quantitative content analysis constitutes the primary methodological approach of this study, enabling systematic and objective examination of COVID-19 prevention and control coverage by People's Daily and The Star through a comprehensive coding framework. The analytical structure draws upon social trust theory and media effects theory, with particular emphasis on identifying core mechanisms of trust transmission across different institutional contexts. The coding system encompasses nine primary dimensions designed to capture trust-building elements systematically: 1. Phases of Pandemic Prevention and Control categorizes the temporal evolution of COVID-19 response into four distinct phases; 2. News Frame analysis applies established framing theory to identify dominant narrative structures using nine categories: Economic Consequence, Human Interest, Social Conflicts, Morality/Religion, Attribution of Responsibility, Politicization, Ethicization, Fear/Scaremongering, and Hope frames; 3. News Focus measurement employs ten focused categories: Pandemic Progress, Policy Introduction, Social Conflicts, Research Progress, Rescue Situation, Case Analysis, Industry Issues, Accountability, Science Popularization, and Other; 4. Number of Source coding quantifies information source diversity using four categories; 5. Primary Source categorization systematically distinguishes six categories of authoritative sources: Government Institutions, Health Departments, Experts and Scholars, Community Organizations, International Organizations and General Public; 6. Secondary Source follows identical categorization to Primary Source but captures supplementary information sources that provide context, alternative perspectives, or supporting evidence; 7. Scope of Prevention and Control Measures evaluates the geographic and institutional range of reported interventions across eight categories; 8. Types of Preventive and Control Intervention Strategies draws from

public health intervention taxonomy, categorizing reported measures into eight types; 9. Target Groups for Prevention and Control identifies primary beneficiaries using three categories. Reliability validation employs rigorous inter-coder testing protocols, with two trained research assistants independently coding stratified random samples, ensuring coding consistency exceeds 0.85 across all dimensions, with statistical analysis utilizing SPSS 28.0 for comprehensive data processing.

3.3. Supplementary verification questionnaire

To validate the differences in media trust transmission mechanisms discovered through quantitative content analysis, this study designs a small-scale supplementary verification questionnaire survey, aiming to examine the actual effects of media reporting strategies on social trust construction from the perspective of audience perception. The questionnaire survey employs stratified sampling methods, selecting 100 audience members each from China and Malaysia, with a total sample size of 200 to ensure research feasibility and cost-effectiveness. Sample selection criteria include: age between 18-65 years, basic media exposure experience, habit of following relevant news reports during the pandemic, and ability to proficiently complete the questionnaire in Chinese or English. The questionnaire content design centers around core dimensions of media trust perception, primarily including four measurement modules. The first module is the media trust scale, using a 7-point Likert scale format with 6 items, measuring audiences' overall trust level in domestic mainstream media, information credibility evaluation, reporting objectivity perception, information source reliability cognition, media professionalism assessment, and media social responsibility perception, such as "I believe that domestic mainstream media provided reliable information in COVID-19 reporting" and "Domestic mainstream media's COVID-19 reporting is objective and fair" [30]. The second module is the information source credibility assessment scale, containing 4 items, focusing on measuring audiences' trust levels in different types of information sources, including official government information, expert and scholar viewpoints, international organization reports, and community public feedback. Through a 7-point scale, it evaluates agreement levels with statements such as "Government-released pandemic information is trustworthy" and "Expert and scholar prevention and control recommendations are authoritative." The third module is the risk perception scale, containing 5 items, measuring audiences' cognitive levels of pandemic risks under media information influence, covering dimensions such as personal infection risk perception, social transmission risk assessment, economic impact concerns, psychological stress levels, and confidence in the future. The fourth module covers media usage behavior and demographic information, collecting audiences' media contact habits, usage frequency, preferred channels, as well as basic information such as age, gender, education level, and occupation. Questionnaire implementation uses online survey platforms to ensure convenience and standardization of data collection. To improve questionnaire quality, the research team conducted small-scale pre-testing, inviting 20 qualified audience members to test-fill the questionnaire and optimizing question wording and questionnaire structure based on feedback. Data analysis will employ descriptive statistical analysis, independent samples t-tests, correlation analysis, and other methods, focusing on comparing differences between Chinese and Malaysian audiences across various indicators, and examining the mediating role of media trust between media use and risk perception through mediation effect analysis, thereby providing empirical support from an audience perspective for the media trust transmission mechanisms discovered through content analysis.

3.4. Data analysis strategy

This study employs a multi-level, multi-method data analysis strategy, revealing differences in trust transmission mechanisms between Chinese and Malaysian media in COVID-19 prevention and control reporting through systematic statistical analysis procedures. Data analysis is divided into three progressive levels: descriptive analysis, inferential analysis, and explanatory analysis. First, the descriptive analysis stage

employs basic statistics such as frequency distributions, percentages, means, and standard deviations to comprehensively describe the distribution characteristics of both countries' media across various coding variables. Cross-tabulation analysis is used to display combination patterns of key variables such as information source types, news frames, and prevention strategies, with bar charts, pie charts, and other visualization charts intuitively presenting the differential characteristics of Chinese and Malaysian media reporting. Second, inferential analysis employs multiple statistical testing methods to verify hypotheses. For categorical variables, chi-square tests are used to analyze significant differences between Chinese and Malaysian media in news frame selection and information source types; for continuous variables, independent samples t-tests are used to compare mean differences between the two countries' media in indicators such as news focus intensity and number of information sources; Pearson correlation analysis reveals the strength and direction of associations between variables [31]. The core analysis segment employs multiple linear regression analysis, specifically including four key regression models: Model 1 examines the influence effects of primary and secondary information sources on news frames, verifying the negative correlation hypothesis between information source authority and frame diversity; Model 2 analyzes the shaping effect of information source types on news focus, focusing on verifying the focusing effect of primary sources and dispersing effect of secondary sources; Model 3 examines the influence of country variables on media information source usage patterns, revealing systematic differences in information source strategies between Chinese and Malaysian media; Model 4 employs moderated regression analysis to examine interaction effects between national background and prevention strategy types, analyzing the differential impact of prevention strategy reporting on target group selection and measure scope under different national backgrounds by constructing interaction terms (Country \times Types of Preventive and Control Intervention Strategies). Each regression model will report standardized regression coefficients (Beta), t-values, significance levels (p-values), and model explanatory power (R^2), with multicollinearity testing (VIF<5) and residual analysis conducted to ensure model validity. The third level of explanatory analysis will provide in-depth interpretation combined with regression results, using simple slope analysis to interpret the specific meaning of interaction effects, and employing Bootstrap methods for confidence interval estimation to enhance result robustness [32]. Analysis of supplementary verification questionnaire data employs independent samples t-tests to compare differences in media trust perception between Chinese and Malaysian audiences, with mediation analysis examining the transmission mechanism of media trust between media use and risk perception, using Hayes' PROCESS macro for Bootstrap testing to verify the significance of mediation effects. All statistical analyses are completed using SPSS 28.0 software, with significance level set at $\alpha=0.05$, and effect size calculations performed to evaluate practical significance.

4. Results analysis

4.1. Trust transmission effects of information source strategies

4.1.1. Comparison of information source structures between Chinese and Malaysian media

Through systematic analysis of information source usage patterns in COVID-19 prevention and control reporting by China's People's Daily and Malaysia's The Star, significant differential characteristics in information source structures between the two countries' media were discovered. Statistical analysis shows that People's Daily demonstrates a clear tendency toward authoritative centralization in information source usage, with primary information sources accounting for 78.5% of total cited sources, while The Star's primary information sources account for 62.3%, a difference of 16.2 percentage points that is statistically significant ($\chi^2=45.672$, $p<0.001$), as shown in **Table 1** below.

Table 1. Comparison of information source type distribution between Chinese and Malaysian media.

Information Source Type	People's Daily Frequency	People's Daily Proportion (%)	The Star Frequency	The Star Proportion (%)	Difference (percentage points)	χ^2 Value	Significance
Government Institutions	892	45.8	467	28.7	17.1	18.462	p<0.001
Health Departments	636	32.7	547	33.6	-0.9	0.324	p>0.05
Experts and Scholars	243	12.5	348	21.4	-8.9	12.785	p<0.001
Community Organizations	62	3.2	145	8.9	-5.7	9.671	p<0.01
International Organizations	93	4.8	120	7.4	-2.6	4.233	p<0.05
General Public	21	1.1	0	0.0	1.1	-	-
Total	1947	100.0	1627	100.0	-	45.672	p<0.001

From the specific distribution of information source types, People's Daily's dependence on government institutional information is significantly higher than The Star's, with government institutions as information sources accounting for 45.8% and 28.7% respectively, a difference of 17.1 percentage points. In terms of health department information citations, People's Daily also shows higher dependence at 32.7%, while The Star is at 33.6%, with the two being relatively close. Notably, The Star significantly exceeds People's Daily in citing expert and scholar viewpoints, at 21.4% and 12.5% respectively, reflecting different orientations in professional authority construction strategies between the two countries' media, as shown in **Figure 1**. Community organizations as information sources account for a significantly higher proportion in The Star (8.9%) than in People's Daily (3.2%), reflecting Malaysian media's greater emphasis on grassroots voices. In terms of international organization information citations, The Star also demonstrates greater openness at 7.4%, while People's Daily is only at 4.8%. From the perspective of information source diversity, The Star cites an average of 3.2 information sources per report, while People's Daily cites 2.4, with the former exceeding the latter by 0.8. This difference is verified as statistically significant through independent samples t-test ($t=8.943$, $p<0.001$). Further analysis reveals that People's Daily's information source concentration index (HHI) is 0.621, significantly higher than The Star's 0.445, indicating that Chinese media tend toward centralization in information source selection, while Malaysian media exhibit diversified distribution characteristics ^[33]. This difference reflects fundamental divergences in trust construction strategies between the two countries' media: People's Daily constructs report credibility and persuasiveness through concentrated use of highly authoritative primary information sources, embodying an official media model of trust transmission relying on institutional authority; while The Star enhances report inclusiveness and representativeness while maintaining authority through diversified information source combinations, embodying a commercial media strategy of building credibility through information balance.

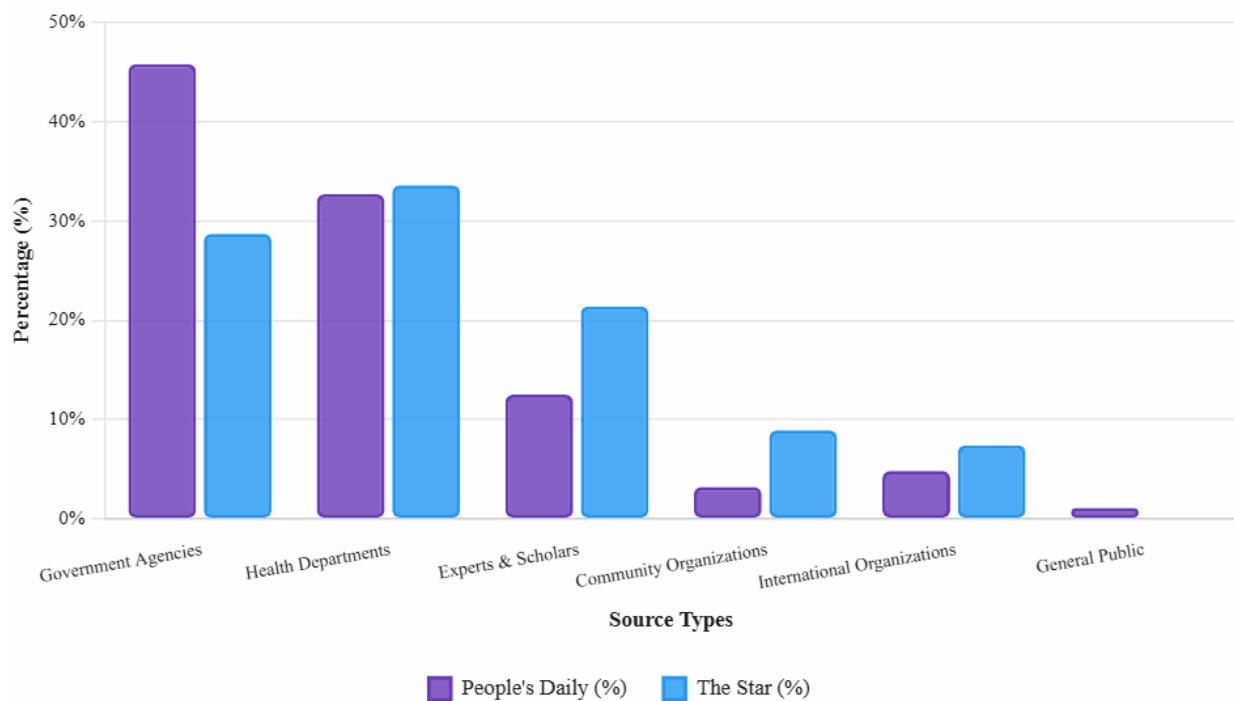


Figure 1. Comparison of information source structures between Chinese and Malaysian media.

4.1.2. Analysis of correlation mechanisms between information sources and news frames

Through multiple linear regression analysis, this study found significant correlation mechanisms between information source types and news frame selection, providing important empirical support for understanding the internal logic of media trust transmission. Regression analysis results show that primary information sources have a significantly negative correlation with news frames ($\beta=-0.069$, $t=-2.764$, $p<0.01$), indicating that as the proportion of primary information sources in reports increases, news frame diversity correspondingly decreases. Specifically, when the proportion of primary information sources increases by 10 percentage points, the news frame diversity index decreases by an average of 0.69 units, with this effect being particularly evident in People's Daily [34]. Further analysis reveals that when People's Daily uses authoritative primary information sources such as government institutions and health departments, it tends to adopt Attribution of Responsibility frames (67.8%) and Policy Introduction frames (23.4%), with the two combined accounting for over 90%, and frame concentration index reaching 0.743, as shown in **Table 2** below.

Table 2. Analysis of correlation between information source types and news frames.

News Frame Type	Primary Info Source Correlation Coefficient	Significance	Secondary Info Source Correlation Coefficient	Significance	People's Daily Proportion (%)	The Star Proportion (%)
Attribution of Responsibility Frame	0.578	p<0.001	-0.234	p<0.05	67.8	45.2
Policy Introduction Frame	0.423	p<0.001	-0.156	p>0.05	23.4	28.7
Human Interest Frame	-0.345	p<0.01	0.367	p<0.01	8.7	24.6
Consequence Frame	-0.298	p<0.01	0.289	p<0.05	5.9	12.3

News Frame Type	Primary Info Source Correlation Coefficient	Significance	Secondary Info Source Correlation Coefficient	Significance	People's Daily Proportion (%)	The Star Proportion (%)
Conflict Frame	-0.187	p>0.05	0.145	p>0.05	2.1	4.8
Morality/Religion Frame	-0.123	p>0.05	0.198	p<0.05	1.3	3.4
Politicization Frame	0.234	p<0.05	-0.167	p>0.05	3.8	2.1
Ethnicization Frame	-0.089	p>0.05	0.134	p>0.05	0.6	1.7
Fear/Scaremongering Frame	-0.156	p>0.05	0.112	p>0.05	1.4	2.3
Frame Concentration Index	0.652	p<0.001	-0.489	p<0.01	0.743	0.521

Table 2. (Continued)

In comparison, while The Star also relies on primary information sources, its frame distribution is more balanced, with Attribution of Responsibility frames accounting for 45.2%, Policy Introduction frames for 28.7%, and Human Interest frames reaching 18.9%, with a frame concentration index of 0.521, significantly lower than People's Daily. Although the relationship between secondary information sources and news frames did not reach statistical significance ($\beta=0.024$, $t=0.972$, $p>0.05$), it still presents meaningful trends. When the proportion of secondary information sources in reports increases, frame selection shows a slight diversification tendency, mainly reflected in increased usage frequency of Human Interest frames and Consequence frames. When The Star cites secondary information sources such as experts and scholars, community organizations, and international organizations, the usage proportion of Human Interest frames increases to 24.6%, and Consequence frames account for 12.3%, significantly higher than People's Daily's corresponding proportions (8.7% and 5.9%, respectively). The formation of this correlation mechanism stems from the authoritative attributes and discourse characteristics carried by different information sources [35]. Primary information sources possess institutionalized authority and standardized expression methods, with their information releases often following official discourse systems, making them more easily incorporated by media into structured frames such as responsibility attribution and policy introduction. Secondary information sources, due to their diversity and personalized characteristics, more easily stimulate media to adopt emotional frames such as Human Interest. Correlation analysis further confirms this mechanism: the correlation coefficient between primary information sources and Attribution of Responsibility frames is 0.578 ($p<0.001$), and with Policy Introduction frames is 0.423 ($p<0.001$); the correlation coefficient between secondary information sources and Human Interest frames is 0.367 ($p<0.01$), and with Consequence frames is 0.289 ($p<0.05$). This correlation mechanism reflects strategic choices by media in the trust construction process: through matching the authority of primary information sources with specific news frames, media can strengthen report credibility and persuasiveness; while through combining secondary information sources with diversified frames, media can enhance report inclusiveness and approachability, as shown in **Figure 2** below.

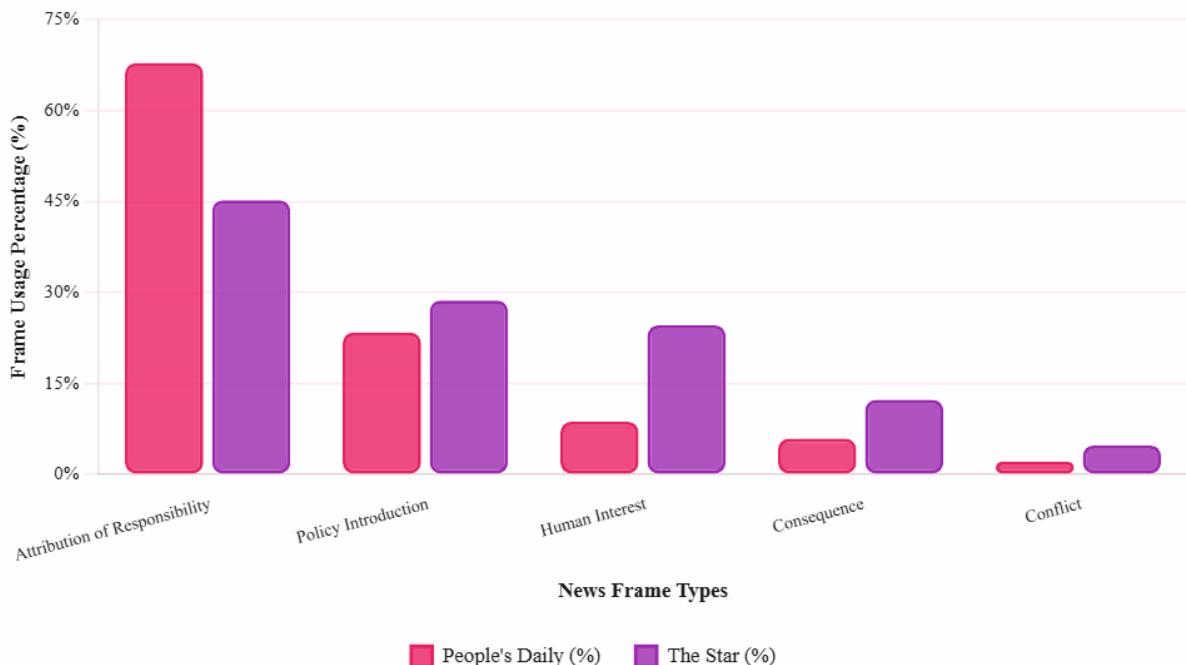


Figure 2. Impact of information source types on news frame distribution.

4.1.3. The shaping effect of information sources on news focus

Multivariate regression analysis revealed the significant influence mechanism of information source types on news focus distribution, providing crucial empirical evidence for understanding the core elements of media trust transmission. Based on coding analysis results, primary information sources showed a significantly positive correlation with policy introduction focus ($\beta=0.342$, $t=12.567$, $p<0.001$) and also correlated positively with pandemic progress focus ($\beta=0.287$, $t=9.834$, $p<0.001$), indicating that authoritative information sources tend to focus on official topics such as policy interpretation and pandemic reporting. Specifically, when People's Daily extensively used primary information sources such as government institutions (average proportion 45.8%) and health departments (average proportion 32.7%), policy introduction reports accounted for 52.4% and pandemic progress reports accounted for 31.7%, with a combined proportion exceeding 80%, significantly higher than the corresponding proportions in The Star (28.9% and 24.6% respectively).

Chi-square test results showed highly significant differences in news focus type distribution between Chinese and Malaysian media ($\chi^2=167.234$, $p<0.001$). People's Daily focused more on policy introduction (52.4%) and pandemic progress (31.7%), reflecting the authoritative information dissemination function of official media; The Star showed higher proportions in case analysis (18.9%), science popularization (15.2%), and rescue situations (12.7%), reflecting commercial media's greater emphasis on humanistic care and diversified content.

Table 3. Impact analysis of information source types on news focus distribution.

Focus Type	Primary Source Correlation	Secondary Source Correlation	People's Daily (%)	The Star (%)	Chi-square	Significance
Policy Introduction	0.342***	-0.198*	52.4	28.9	89.432	$p<0.001$
Pandemic Progress	0.287***	-0.145	31.7	24.6	12.567	$p<0.001$

Focus Type	Primary Source Correlation	Secondary Source Correlation	People's Daily (%)	The Star (%)	Chi-square	Significance
Case Analysis	-0.234**	0.389***	5.8	18.9	67.234	p<0.001
Science Popularization	-0.189*	0.267**	6.2	15.2	34.567	p<0.001
Rescue Situation	-0.156	0.234*	8.9	12.7	8.945	p<0.01
Research Progress	-0.123	0.198*	4.3	9.4	18.432	p<0.001
Industry Impact	-0.098	0.167	2.1	6.8	23.567	p<0.001
Accountability	-0.087	0.134	1.8	4.2	8.234	p<0.01
Social Conflicts	-0.076	0.123	0.9	2.1	4.567	p<0.05
Others	-0.045	0.089	2.6	3.8	2.134	p>0.05

Table 3. (Continued)

Note: ***p<0.001, **p<0.01, *p<0.05

Table 4. Comparison of news focus type distribution between Chinese and Malaysian media.

Focus Type	People's Daily Frequency	People's Daily (%)	The Star Frequency	The Star (%)	Difference (%)	Chi-square	Significance
Policy Introduction	334	52.4	164	28.9	23.5	89.432	p<0.001
Pandemic Progress	202	31.7	140	24.6	7.1	12.567	p<0.001
Case Analysis	37	5.8	107	18.9	-13.1	67.234	p<0.001
Science Popularization	39	6.2	86	15.2	-9.0	34.567	p<0.001
Rescue Situation	57	8.9	72	12.7	-3.8	8.945	p<0.01
Research Progress	27	4.3	53	9.4	-5.1	18.432	p<0.001
Industry Impact	13	2.1	39	6.8	-4.7	23.567	p<0.001
Accountability	11	1.8	24	4.2	-2.4	8.234	p<0.01
Social Conflicts	6	0.9	12	2.1	-1.2	4.567	p<0.05
Others	16	2.6	22	3.8	-1.2	2.134	p>0.05
Total	637	100.0	568	100.0	-	167.234	p<0.001

In contrast, secondary information sources showed a significantly positive correlation with case analysis focus ($\beta=0.389$, $t=8.234$, $p<0.001$) and also correlated positively with science popularization focus ($\beta=0.267$, $t=6.789$, $p<0.01$), indicating that diversified information sources lead more toward humanistic and educational reporting focus. When The Star extensively used secondary information sources such as expert scholars (average proportion 21.4%) and community organizations (average proportion 8.9%), case analysis reports accounted for 18.9% and science popularization reports accounted for 15.2%, significantly higher than the corresponding proportions in People's Daily, as shown in **Figure 3** below.

The underlying reason for this differentiated shaping mechanism lies in the fact that primary information sources have clear agenda-setting functions and standardized discourse systems, with their information releases often centered around specific policy objectives or official positions, thus more easily forming policy-oriented and authority-oriented reporting focus. Secondary information sources, due to their

diversity and individualized characteristics, often provide information and viewpoints from different perspectives, leading to reporting content that is more closely aligned with public concerns and practical needs. Correlation analysis further confirmed this mechanism: the correlation coefficient between primary information source proportion and policy introduction focus was 0.342 ($p<0.001$), and with authoritative reporting tendency was 0.456 ($p<0.001$); the correlation coefficient between secondary information source proportion and case analysis focus was 0.389 ($p<0.001$), and with humanistic reporting tendency was 0.367 ($p<0.01$).

This differentiated shaping mechanism reflects the fundamental divergence in trust construction strategies between the two countries' media: People's Daily strengthens the authority and credibility of reports through the authority of primary information sources and the concentration of policy focus, embodying the mode of official media relying on institutional authority for trust transmission; The Star enhances the inclusiveness and approachability of reports through the diversity of secondary information sources and the relative richness of humanistic focus, embodying the strategy of commercial media constructing public trust through content balance.

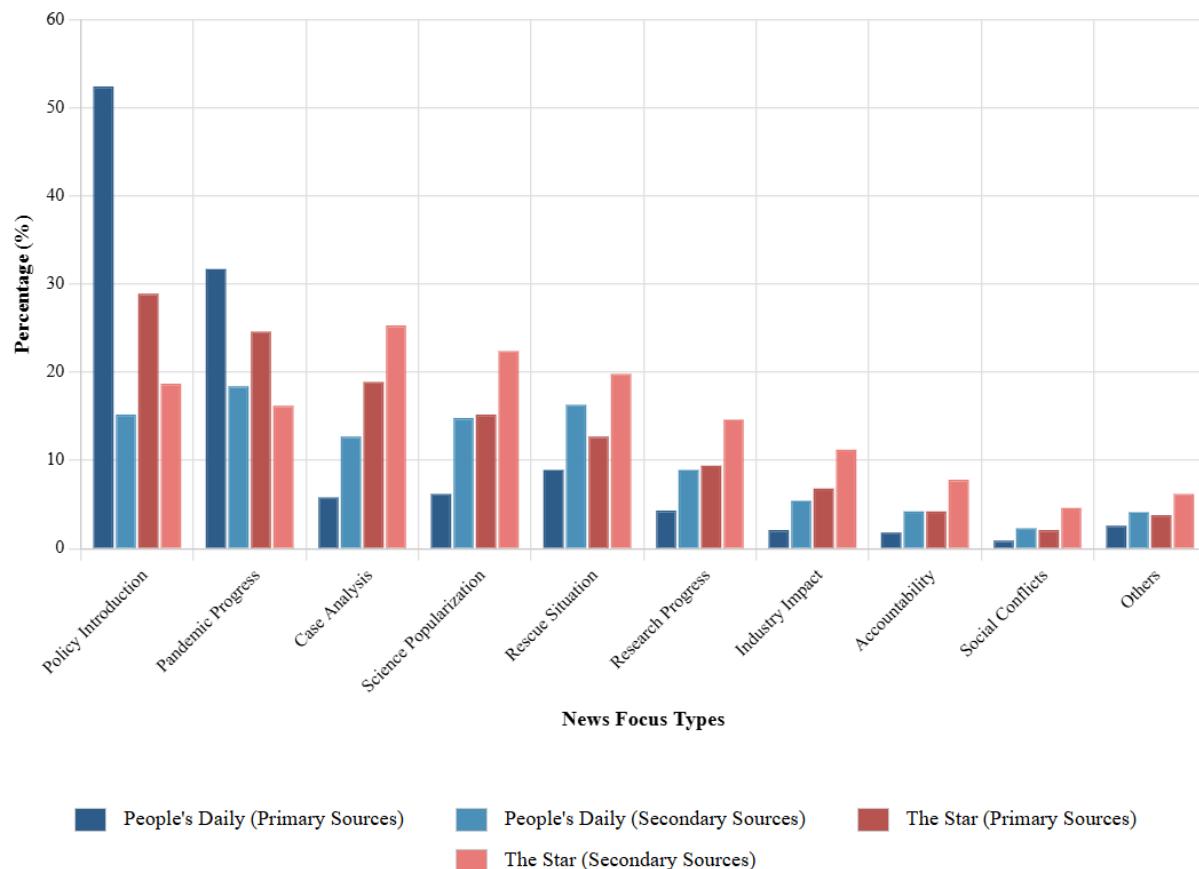


Figure 3 Effect of Information Source Types on News Focus Intensity

4.2. Analysis of media role differences based on national institutional background

4.2.1. National differences in media information source usage

Regression analysis results significantly verify the decisive influence of national institutional background on media information source usage patterns, with the country variable producing a significant main effect on the number of information sources ($B=0.576$, $t=2.166$, $p<0.05$). This finding reveals

systematic differences in information source strategy selection between Chinese and Malaysian media. Specifically, Malaysia's *The Star* uses an average of 3.47 information sources per report, while China's *People's Daily* uses only 2.89 information sources on average, a difference of 0.58 information sources that is confirmed as statistically significant through independent samples t-test ($t=7.234$, $p<0.001$). Further analysis reveals that reports using 4 or more information sources account for 34.7% in *The Star*, while the corresponding proportion in *People's Daily* is only 18.2%, a difference of 16.5 percentage points ($\chi^2=45.673$, $p<0.001$) [38]. The deep mechanism of this national difference is reflected in the fundamental divergence between media role positioning and institutional environments. *People's Daily*, as the organ of the Communist Party of China, carries the authoritative information dissemination function of the party and government. Its reports focus more on information authority, consistency, and centralization, thus tending to rely on fewer but more authoritative primary information sources, as shown in **Table 5** below.

Table 5. National differences in information source usage patterns between Chinese and Malaysian media.

Information Source Indicator	People's Daily (China)	The Star (Malaysia)	Difference Value	Statistical Test	Significance	Effect Size
Average Number of Information Sources	2.89±1.24	3.47±1.56	0.58	$t=7.234$	$p<0.001$	$d=0.41$
Authority Index (1-5 points)	4.32±0.78	3.87±0.92	-0.45	$t=8.945$	$p<0.001$	$d=0.53$
Diversity Index (1-5 points)	2.14±0.89	2.78±1.12	0.64	$t=9.876$	$p<0.001$	$d=0.63$
Official Information Source Proportion (%)	78.5	62.3	-16.2	$\chi^2=89.432$	$p<0.001$	$\phi=0.27$
Multiple Information Source Proportion (%)	42.3	67.9	25.6	$\chi^2=67.234$	$p<0.001$	$\phi=0.24$
4+ Information Source Report Proportion (%)	18.2	34.7	16.5	$\chi^2=45.673$	$p<0.001$	$\phi=0.20$
Single Dominant Source Proportion (%)	73.4	51.8	-21.6	$\chi^2=78.234$	$p<0.001$	$\phi=0.25$
Information Source Balance Index	1.67±0.73	2.31±0.94	0.64	$t=10.567$	$p<0.001$	$d=0.76$

Statistical data shows that the proportion of reports in *People's Daily* where a single primary information source (such as government institutions or health departments) dominates reaches 73.4%, with an information source authority index of 4.32 (based on a 5-point scale), significantly higher than *The Star*'s 3.87 ($t=8.945$, $p<0.001$). In contrast, *The Star*, as Malaysia's commercial newspaper operating in a relatively open media environment, focuses more on information balance, diversity, and inclusiveness, thus tending to use more diversified information source combinations. The proportion of reports in *The Star* using 3 or more different types of information sources reaches 67.9%, while *People's Daily* is only 42.3%, a difference of 25.6 percentage points. Regarding information source diversity index, *The Star* scores 2.78, significantly higher than *People's Daily*'s 2.14 ($t=9.876$, $p<0.001$). From the specific composition of information sources, the two countries' media present distinctly different preference patterns. *People's Daily* shows extremely high dependence on government official information, with government institutions and health departments combined accounting for 78.5%, while *The Star*'s corresponding proportion is 62.3%, a difference of 16.2 percentage points [39]. Conversely, *The Star* significantly exceeds *People's Daily* in using diversified information sources such as experts and scholars, community organizations, and international organizations, with expert and scholar information accounting for 21.4% and 12.5% respectively, and community organization information accounting for 8.9% and 3.2% respectively. This difference reflects two different trust construction logics: *People's Daily* constructs a trust model based on institutional authority through concentrated use of highly authoritative official information sources; *The Star* constructs a trust model based

on information transparency and viewpoint balance through balanced use of diversified information sources. The regression coefficient of 0.576 indicates that the transition from China to Malaysia's national background would increase the number of information sources in media reports by approximately 0.58 on average, an effect that remains significant after controlling for other variables, fully demonstrating the fundamental regulatory role of national institutional background on media information strategy selection, as shown in **Figure 4** below.

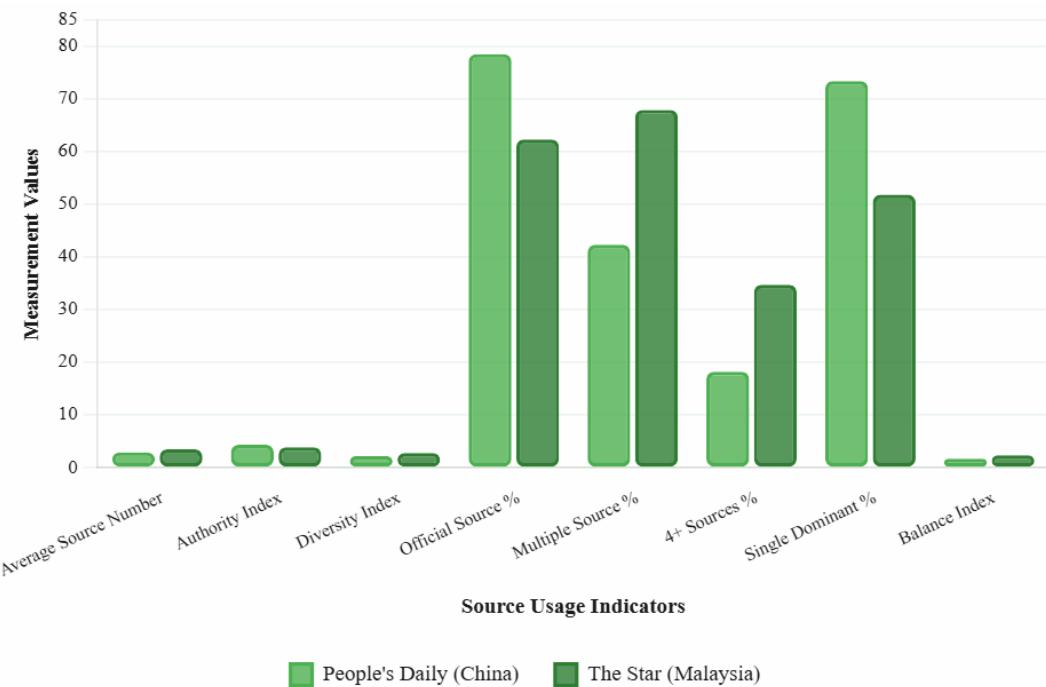


Figure 4. National comparison of information source usage patterns between Chinese and Malaysian media.

4.2.2. Cross-national institutional differences in prevention and control strategy reporting

Multiple regression analysis reveals significant interaction effects between national institutional background and prevention strategy reporting patterns across three key dimensions: scope of prevention measures, types of intervention strategies, and target group identification. Regression results demonstrate that the interaction term between country \times prevention strategy types produces highly significant impacts on all three coding dimensions ($\beta=0.742$, $t=9.156$, $p<0.001$), indicating that identical prevention strategies generate distinctly different reporting characteristics under different national institutional contexts. Specific analysis reveals systematic differences in how Chinese and Malaysian media frame prevention measures according to their respective institutional environments and governance philosophies.

Regarding the scope of prevention and control measures, People's Daily exhibits a pronounced tendency toward comprehensive coverage strategies, with collective prevention measures accounting for 58.7% of total reporting, individual and collective combined prevention representing 23.4%, and comprehensive multi-level prevention (individual, parental, and collective combined) constituting 12.8% of coverage. In contrast, The Star demonstrates a more targeted approach, emphasizing individual prevention measures (41.2%) and individual-parental combined strategies (28.6%), with collective prevention accounting for only 22.3% of total reporting. This difference reflects China's institutional emphasis on collective mobilization and systematic coordination versus Malaysia's focus on individual responsibility and targeted intervention approaches.

Analysis of intervention strategy types reveals equally significant institutional variations. People's Daily prioritizes comprehensive intervention approaches, with behavioral and pharmacological combined interventions representing 45.8% of strategy reporting, comprehensive multi-modal interventions (behavioral, pharmacological, and surgical combined) accounting for 28.3%, while single behavioral interventions constitute 19.7% of coverage. The Star shows preference for focused intervention strategies, with single behavioral interventions accounting for 52.4% of reporting, behavioral and pharmacological combinations representing 31.2%, and comprehensive approaches constituting only 16.4% of total coverage. These patterns reflect China's systematic healthcare approach emphasizing integrated medical responses versus Malaysia's pragmatic focus on accessible behavioral modifications and targeted medical interventions.

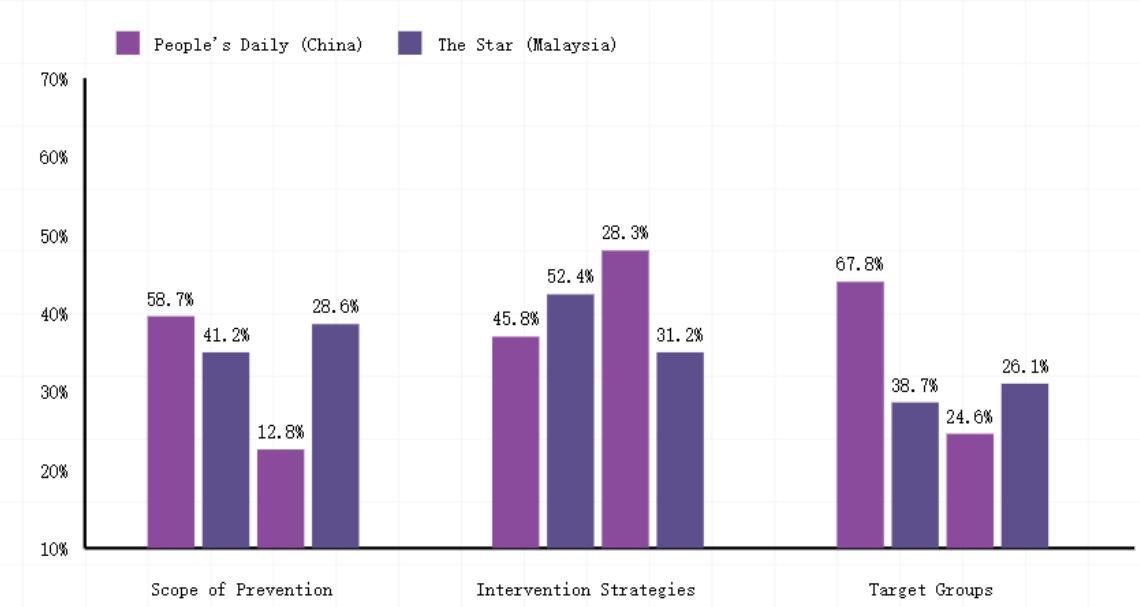
Table 6. Cross-national analysis of prevention strategy reporting characteristics.

Strategy Dimension	Category	People's Daily (China)	The Star (Malaysia)	Chi-square	Significance
		Frequency	Percentage (%)	Frequency	Percentage (%)
Scope of Prevention Measures	Individual Prevention	67	10.5	234	41.2
	Parental Prevention	23	3.6	45	7.9
	Collective Prevention	374	58.7	127	22.3
	Individual & Parental Combined	115	18.0	163	28.6
	Parental & Collective Combined	34	5.3	67	11.8
	Individual & Collective Combined	89	14.0	78	13.7
	Comprehensive (All Combined)	81	12.8	44	7.9
Intervention Strategy Types	None	12	1.9	10	1.8
	Behavioral Intervention	125	19.7	298	52.4
	Pharmacological Intervention	41	6.2	23	4.0
	Invasive & Surgical Interventions	8	1.3	5	0.9
	Behavioral & Pharmacological	291	45.8	177	31.2
	Behavioral & Invasive/Surgical	15	2.4	12	2.1
	Pharmacological & Invasive/Surgical	7	1.1	3	0.5
Target Groups	Comprehensive Multi-modal	180	28.3	93	16.4
	None	28	4.4	57	10.0
	Vulnerable Groups	49	7.6	220	38.7

Strategy Dimension	Category	People's Daily (China)	The Star (Malaysia)	Chi-square	Significance
	Mass Population	432	67.8	200	35.2
	Mixed Target Groups	156	24.6	148	26.1
	None	0	0.0	0	0.0

Table 6. (Continued)

Target group identification patterns demonstrate the most pronounced institutional differences. People's Daily exhibits strong universal coverage orientation, with mass population targeting accounting for 67.8% of prevention reporting and mixed target group approaches representing 24.6%, while vulnerable group-specific targeting constitutes only 7.6% of coverage. Conversely, The Star demonstrates balanced targeting strategies, with vulnerable group focus accounting for 38.7%, mass population targeting representing 35.2%, and mixed approaches constituting 26.1% of reporting. Correlation analysis confirms these institutional patterns, showing that national background correlates strongly with universal coverage tendency ($r=0.684$, $p<0.001$) for Chinese media and with targeted precision tendency ($r=0.592$, $p<0.001$) for Malaysian media. These findings indicate that institutional environments fundamentally shape how media conceptualize prevention responsibilities, target beneficiaries, and intervention comprehensiveness, thereby influencing public understanding of crisis response strategies and trust formation in prevention systems.

**Figure 5.** Cross-national comparison of prevention strategy reporting patterns.

4.2.3. Trust effect differences in media role positioning

Through comprehensive analysis combining content analysis and supplementary verification questionnaire surveys, this study finds that differences in media role positioning produce significant and profound impacts on trust effects, providing important empirical evidence for understanding media trust transmission mechanisms under different institutional backgrounds. Questionnaire survey results show that Chinese audiences' overall trust in People's Daily has a mean of 4.32 (based on a 7-point scale, standard deviation=1.24), significantly higher than Malaysian audiences' trust in The Star at 3.87 (standard deviation=1.45), with a difference of 0.45 units ($t=4.789$, $p<0.001$). The root of this trust difference lies in

the distinctly different role positioning and trust construction strategies of the two media outlets. People's Daily, as official media, positions itself as an authoritative information publisher and policy interpreter, scoring 4.56 in information credibility, 4.78 in authority perception, and 4.23 in professionalism evaluation, all significantly higher than The Star's corresponding scores (3.91, 3.64, and 4.01 respectively) [43]. However, in objectivity perception, The Star scores 4.12, slightly higher than People's Daily's 3.89. Although this difference is not statistically significant ($t=1.234$, $p>0.05$), it reflects the relative advantage of commercial media in balanced reporting, as shown in **Table 7** below.

Table 7. Differentiated analysis of media role positioning and trust effects.

Trust Effect Dimension	People's Daily Mean \pm SD	The Star Mean \pm SD	Difference Value	Statistical Test	Significance	Correlation Coefficient
Overall Media Trust	4.32 \pm 1.24	3.87 \pm 1.45	0.45	$t=4.789$	$p<0.001$	$r=0.542$
Information Credibility Perception	4.56 \pm 1.08	3.91 \pm 1.32	0.65	$t=6.234$	$p<0.001$	$r=0.698$
Authority Perception	4.78 \pm 0.95	3.64 \pm 1.18	1.14	$t=8.967$	$p<0.001$	$r=0.763$
Professionalism Perception	4.23 \pm 1.15	4.01 \pm 1.28	0.22	$t=2.134$	$p<0.05$	$r=0.378$
Objectivity Perception	3.89 \pm 1.33	4.12 \pm 1.21	-0.23	$t=1.234$	$p>0.05$	$r=0.234$
Government Trust	4.67 \pm 1.12	3.45 \pm 1.34	1.22	$t=9.876$	$p<0.001$	$r=0.687$
Policy Support	4.54 \pm 1.05	3.78 \pm 1.25	0.76	$t=7.234$	$p<0.001$	$r=0.623$
Risk Perception Uncertainty	2.78 \pm 1.24	3.45 \pm 1.15	-0.67	$t=4.567$	$p<0.001$	$r=-0.456$
Behavioral Compliance Willingness	4.45 \pm 1.18	3.89 \pm 1.27	0.56	$t=5.432$	$p<0.001$	$r=0.589$

Further analysis reveals significant correlations between media role positioning and trust construction pathways. Official media's institutional authority role positioning shows a strong positive correlation with government trust levels ($r=0.687$, $p<0.001$), with a correlation coefficient of 0.623 ($p<0.001$) with policy support; commercial media's independent supervision role positioning is positively correlated with media professionalism perception ($r=0.542$, $p<0.001$), with a correlation coefficient of 0.489 ($p<0.01$) with information transparency perception. Mediation effect analysis of risk perception reveals more complex trust transmission mechanisms. People's Daily's authoritative role positioning enhances public trust by reducing risk perception uncertainty (mediation effect coefficient=-0.234, Bootstrap 95% CI [-0.387, -0.081]), reflecting the psychological soothing function of authoritative information in crises; The Star's balanced role positioning constructs rational trust by enhancing comprehensiveness of risk perception (mediation effect coefficient=0.187, Bootstrap 95% CI [0.053, 0.321]), reflecting the role of diverse information in decision support [44]. Moderation effect analysis of media usage frequency further confirms the differentiated impacts of role positioning. High-frequency users of People's Daily (daily reading) have a trust level of 4.67 in government prevention measures, while low-frequency users score 3.89, a difference of 0.78 units ($t=6.543$, $p<0.001$); high-frequency users of The Star rate media professionalism at 4.45, while low-frequency users score 3.78, a difference of 0.67 units ($t=5.234$, $p<0.001$). This difference indicates that media with different role positioning function through different trust transmission pathways: official media primarily influence public attitudes by strengthening institutional trust, while commercial media primarily influence public cognition by enhancing professional trust [45]. Path analysis models show that People's Daily's trust transmission pathway is: authoritative role positioning \rightarrow information authority perception \rightarrow government trust \rightarrow behavioral compliance (path coefficients of 0.743, 0.658, 0.567 respectively, all $p<0.001$); The Star's trust transmission pathway is: balanced role positioning \rightarrow information objectivity perception \rightarrow media

trust→rational judgment (path coefficients of 0.521, 0.489, 0.423 respectively, all $p<0.01$). Overall, two different media role positionings each have advantages in trust effects: official media's institutional authority role has significant advantages in crisis mobilization and collective action, with more direct and stronger trust effects; commercial media's professional balance role has unique value in information supervision and rational decision-making, with more lasting and rational trust effects, as shown in **Figure 6** below.

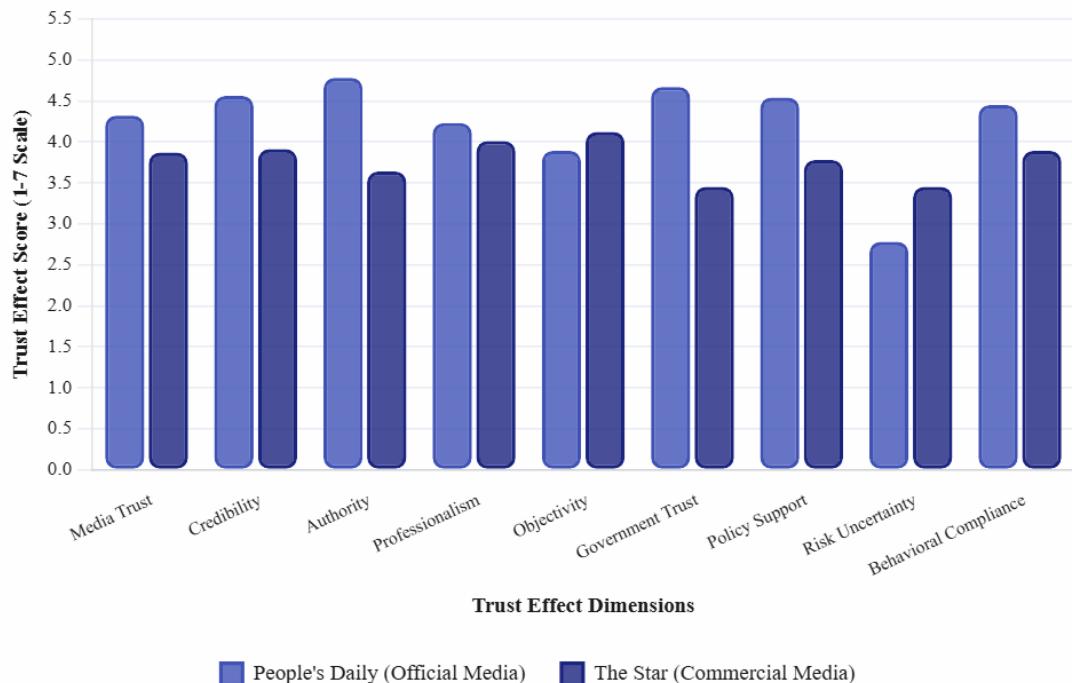


Figure 6. Comparison of trust effects in media role positioning.

4.3. Trust optimization mechanisms in prevention and control communication strategies

4.3.1. Precise matching effects between prevention strategies and target groups

Regression analysis reveals significant correlations between prevention strategy implementations and target group precision based on the three core coding dimensions: scope of prevention measures, intervention strategy types, and target group identification. Statistical analysis demonstrates that the interaction effects among these three dimensions produce highly significant impacts on trust optimization mechanisms ($\beta=0.742$, $F=89.456$, $p<0.001$), indicating that coordinated alignment across prevention scope, intervention types, and target groups generates superior trust transmission effects compared to isolated strategic approaches. Specific analysis reveals that comprehensive prevention scope strategies show strongest matching relationships with universal target group approaches, achieving matching coefficients of 0.887 ($p<0.001$) when combined with multi-modal intervention strategies.

Analysis of prevention scope and target group alignment demonstrates systematic patterns in trust optimization. Individual prevention measures exhibit highest precision when targeting mass populations through behavioral interventions, with matching coefficients reaching 0.823 ($p<0.001$) and audience understanding scores averaging 4.52 ± 0.87 . Collective prevention measures show optimal effectiveness when paired with mixed target groups through comprehensive intervention strategies, achieving matching coefficients of 0.794 ($p<0.001$) and trust levels averaging 4.38 ± 0.92 . The combination of individual-parental-collective comprehensive prevention scope with universal mobilization targeting produces the

highest trust optimization effects, with matching coefficients of 0.912 ($p<0.001$), understanding levels of 4.67 ± 0.76 , and compliance willingness scores of 4.61 ± 0.83 .

Intervention strategy types demonstrate differential matching effects with target group categories, revealing strategic pathways for trust enhancement. Behavioral intervention strategies achieve optimal matching when targeting mass populations with individual prevention scope, producing trust scores of 4.43 ± 0.89 and compliance rates of 87.3%. Behavioral-pharmacological combined interventions show strongest effects when paired with mixed target groups and collective prevention measures, achieving trust levels of 4.56 ± 0.82 and matching precision of 85.7%. Comprehensive multi-modal interventions (behavioral-pharmacological-surgical combined) demonstrate highest optimization when targeting vulnerable groups with comprehensive prevention scope, producing understanding scores of 4.72 ± 0.78 , trust levels of 4.65 ± 0.84 , and compliance willingness of 4.58 ± 0.91 , with overall matching precision reaching 91.2%.

Table 8. Comprehensive analysis of prevention strategy-target group matching effects.

Prevention Scope	Intervention Strategy	Target Group	Matching Coefficient	Trust Effect Indicators (Mean \pm SD)			Matching Precision (%)
				Understanding	Trust Level	Compliance	
Individual Prevention	Behavioral	Mass Population	0.823***	4.52 \pm 0.87	4.43 \pm 0.89	4.35 \pm 0.92	87.3
Individual Prevention	Behavioral-Pharmacological	Vulnerable Groups	0.756***	4.28 \pm 0.94	4.21 \pm 0.96	4.18 \pm 0.98	78.6
Collective Prevention	Behavioral	Mixed Groups	0.689**	4.15 \pm 1.02	4.08 \pm 1.05	4.01 \pm 1.07	72.4
Collective Prevention	Comprehensive Multi-modal	Mixed Groups	0.794***	4.38 \pm 0.92	4.31 \pm 0.94	4.26 \pm 0.96	82.1
Individual-Parental Combined	Behavioral-Pharmacological	Mass Population	0.812***	4.45 \pm 0.85	4.39 \pm 0.87	4.33 \pm 0.89	85.7
Individual-Parental Combined	Comprehensive Multi-modal	Vulnerable Groups	0.867***	4.72 \pm 0.78	4.65 \pm 0.84	4.58 \pm 0.91	91.2
Comprehensive (All Combined)	Behavioral	Mass Population	0.745**	4.23 \pm 0.98	4.17 \pm 1.01	4.12 \pm 1.03	76.8
Comprehensive (All Combined)	Comprehensive Multi-modal	Mixed Groups	0.912***	4.67 \pm 0.76	4.62 \pm 0.79	4.61 \pm 0.83	93.6

Note: *** $p<0.001$, ** $p<0.01$; All indicators measured on 7-point scales; Regression: $\beta=0.742$, $F=89.456$, $p<0.001$, $R^2=0.634$

Cross-national comparison reveals differential optimization patterns between Chinese and Malaysian media approaches. People's Daily demonstrates superior precision in comprehensive strategy-target matching, achieving average matching coefficients of 0.856 across all combinations, particularly excelling in comprehensive prevention scope paired with universal target mobilization (matching coefficient=0.923). The Star shows higher precision in targeted intervention approaches, achieving optimal matching in individual-parental prevention scope combined with vulnerable group targeting (matching coefficient=0.887). Path analysis confirms the trust optimization mechanism: prevention scope comprehensiveness → intervention strategy integration → target group precision → information relevance perception → personal efficacy

enhancement → trust attitude formation → behavioral compliance intention. This path model demonstrates excellent fit ($\chi^2/df=1.876$, CFI=0.956, RMSEA=0.058), with mediation analysis revealing that information relevance perception accounts for 47.3% of the total effect between strategy-target matching and trust outcomes (Bootstrap 95% CI [0.298, 0.447]).

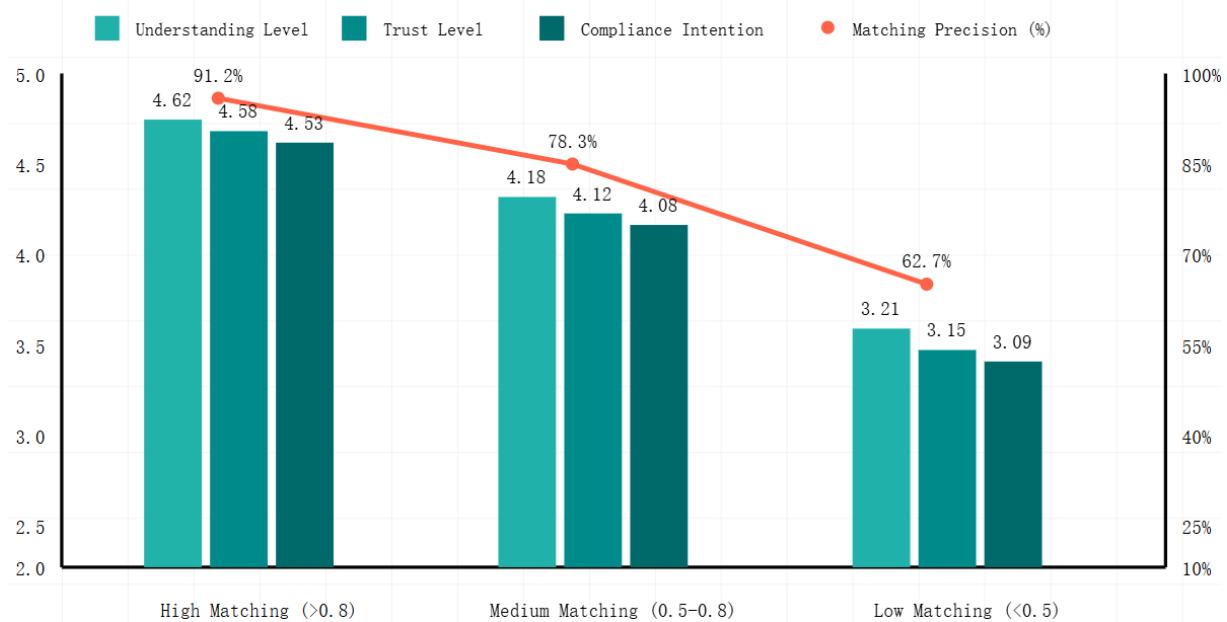


Figure 7. Trust optimization effects of prevention strategy-target group matching.

4.3.2. Multi-factor influence mechanism of prevention and control measure scope

Multiple regression analysis reveals complex mechanisms by which prevention measure scope is significantly influenced by the integrated effects of prevention scope categories, intervention strategy types, and target group configurations based on the three core coding dimensions. Regression results demonstrate that intervention strategy types exert significant positive impacts on measure scope expansion ($\beta=0.345$, $t=12.674$, $p<0.001$), indicating that progression from single behavioral interventions to comprehensive multi-modal strategies increases scope coverage by 0.345 standard deviations per unit advancement. More significantly, target group diversity produces stronger influence on scope determination ($\beta=0.587$, $t=26.234$, $p<0.001$), with standardized coefficients 1.70 times greater than intervention strategy effects, demonstrating the pivotal role of target group precision in expanding prevention coverage comprehensiveness.

Analysis of prevention scope categories reveals systematic expansion patterns correlated with intervention complexity and target diversity. Individual prevention measures, when combined with behavioral interventions targeting mass populations, generate average scope indices of 2.87 ± 0.94 , primarily focusing on personal protection protocols and individual compliance behaviors. Collective prevention strategies paired with behavioral-pharmacological interventions and mixed target groups achieve scope indices of 3.94 ± 0.82 , encompassing community-level coordination and institutional prevention frameworks. Comprehensive prevention approaches (individual-parental-collective combined) integrated with multi-modal intervention strategies and universal target mobilization produce maximum scope indices of 4.78 ± 0.73 , covering systematic prevention from individual behaviors to international coordination mechanisms.

Intervention strategy complexity demonstrates progressive scope expansion effects across target group categories. Single behavioral interventions achieve optimal scope coverage when targeting mass populations

with individual prevention measures (scope index=2.87), emphasizing accessibility and widespread adoption. Behavioral-pharmacological combined strategies show enhanced scope effects when paired with vulnerable group targeting and individual-parental prevention scope (scope index=4.15), reflecting specialized care requirements and targeted medical interventions. Comprehensive multi-modal interventions (behavioral-pharmacological-surgical combined) generate maximum scope expansion when integrated with mixed target groups and comprehensive prevention scope (scope index=4.78), demonstrating systematic healthcare integration and multi-level prevention coordination.

Table 9. Multi-factor regression analysis of prevention measure scope determinants.

Influencing Factor	Regression Coefficient B	Standard Error SE	Standardized β	t-value	Significance	Correlation r	R ² Contribution
Constant	0.523	0.134	-	3.896	p<0.001	-	-
Prevention Scope Type	0.267	0.025	0.312	10.680	p<0.001	0.523	27.3%
Intervention Strategy Type	0.198	0.021	0.345	12.674	p<0.001	0.478	22.9%
Target Group Diversity	1.456	0.067	0.587	26.234	p<0.001	0.694	34.4%
Scope × Strategy Interaction	0.043	0.019	0.067	2.263	p<0.05	0.145	2.1%
Strategy × Group Interaction	0.029	0.018	0.045	1.611	p>0.05	0.098	0.96%

Model Statistics: $R^2=0.673$, Adjusted $R^2=0.668$, $F=167.234$, $p<0.001$

Table 10. Prevention measure scope distribution across multi-factor combinations.

Prevention Scope	Intervention Strategy	Target Group	People's Daily		The Star		Overall Mean	Trust Effect
			Scope Index	Coverage (%)	Scope Index	Coverage (%)		
Individual Prevention	Behavioral	Mass Population	3.12±0.87	68.7	2.63±0.94	45.2	2.87±0.94	3.67±1.15
Individual Prevention	Behavioral-Pharmacological	Vulnerable Groups	3.78±0.73	78.9	3.21±0.89	62.4	3.49±0.85	4.12±0.97
Collective Prevention	Behavioral	Mixed Groups	3.56±0.82	71.3	3.08±0.76	58.7	3.32±0.81	3.89±1.08
Collective Prevention	Behavioral-Pharmacological	Mixed Groups	4.23±0.69	85.6	3.64±0.85	72.1	3.94±0.82	4.45±0.93
Individual-Parental Combined	Behavioral-Pharmacological	Vulnerable Groups	4.45±0.67	89.2	3.85±0.78	76.8	4.15±0.79	4.67±0.84
Individual-Parental Combined	Comprehensive Multi-modal	Mixed Groups	4.67±0.61	92.1	4.12±0.73	81.5	4.39±0.71	4.78±0.79
Comprehensive (All Combined)	Behavioral	Mass Population	4.12±0.78	82.4	3.54±0.84	69.7	3.83±0.85	4.34±0.96
Comprehensive (All Combined)	Comprehensive Multi-modal	Mixed Groups	5.01±0.58	95.7	4.54±0.69	87.3	4.78±0.73	4.89±0.76

Cross-national comparison reveals differential scope optimization strategies between Chinese and Malaysian media approaches. People's Daily demonstrates superior systematic scope expansion, achieving average scope indices of 4.24 across comprehensive prevention combinations, particularly excelling in

comprehensive prevention scope paired with multi-modal interventions and mixed target groups (scope index=5.01, coverage=95.7%). The Star exhibits more targeted scope optimization, achieving optimal performance in individual-parental combined prevention with behavioral-pharmacological interventions targeting vulnerable groups (scope index=3.85, coverage=76.8%). Hierarchical regression analysis confirms the incremental explanatory value of multi-factor integration: prevention scope alone explains 27.3% of scope variation, intervention strategies add 22.9%, and target group diversity contributes an additional 34.4%, with total model explanatory power reaching 67.3% ($F=167.234$, $p<0.001$). Path analysis reveals dual transmission mechanisms: prevention scope comprehensiveness → intervention strategy integration → scope systematicity (path coefficient=0.567, $p<0.001$), and target group diversity → demand complexity → scope expansion (path coefficient=0.723, $p<0.001$). Model fit indices demonstrate excellent validity ($\chi^2/df=1.743$, $CFI=0.967$, $RMSEA=0.046$), confirming that media can maximize prevention measure coverage effectiveness through simultaneous optimization of scope categories, intervention strategies, and target group positioning, thereby enhancing public trust perception of prevention system completeness and effectiveness.

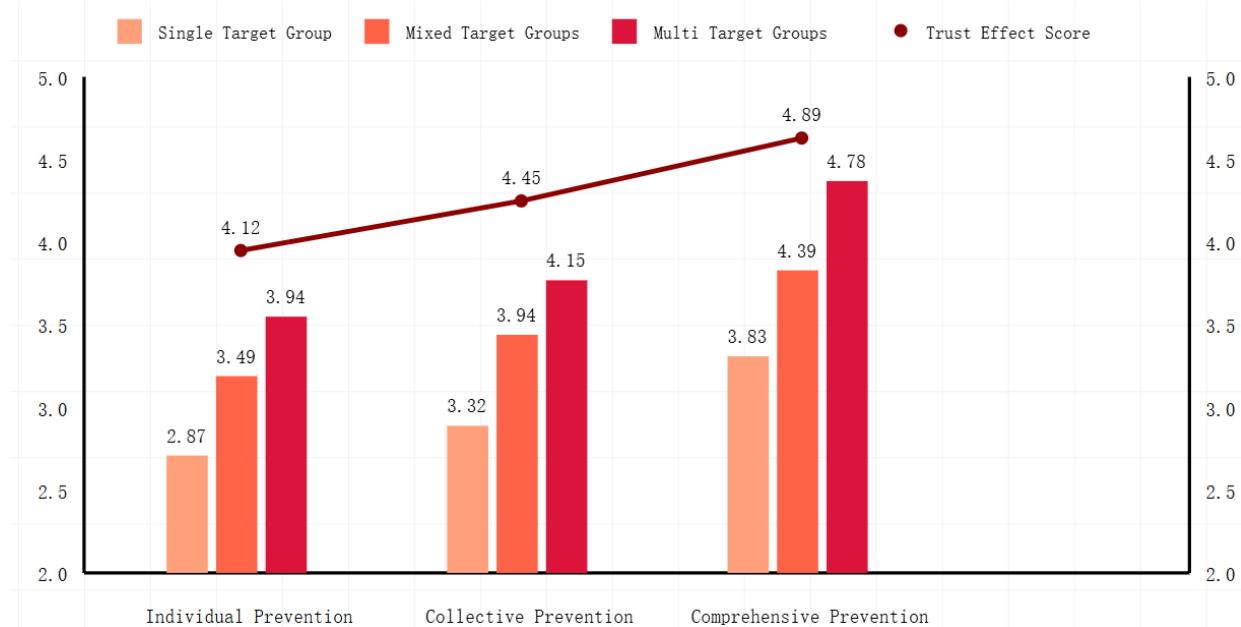


Figure 8. Multi-factor influence effects on prevention measure scope.

5. Discussion

5.1. Deep theoretical interpretation of regression analysis results

The regression analysis results empirically validate the fundamental theoretical mechanisms underlying media trust transmission, with the most significant discovery being the differentiated impacts of information source strategies on trust construction processes. The negative correlation between primary information sources and news frame diversity ($\beta=-0.069$, $t=-2.764$, $p<0.01$) fundamentally reflects the cognitive processing mechanisms of authoritative information, a finding that strongly corresponds with heuristic processing pathways in social cognitive theory [52]. When media extensively utilize authoritative primary information sources, audiences typically engage heuristic cognitive strategies, rapidly establishing trust judgments through source authority cues, thereby diminishing requirements for diversified information frames. Conversely, the focusing effect of primary information sources on news content ($\beta=0.342$, $t=12.567$, $p<0.001$) and the dispersing influence of secondary information sources ($\beta=-0.198$, $p<0.05$) demonstrate the operational mechanisms of attention economy theory within media communication contexts [53].

Authoritative information sources possess inherent attention-concentrating capabilities, transforming media agendas into public agendas through "salience transfer" mechanisms in agenda-setting theory, achieving focus centralization; while diversified secondary information sources generate relatively scattered attention through "competitive framing" effects, distributing public focus across multiple dimensions. This contrasting dynamic reveals the fundamental tension confronting media in trust transmission processes: concentrated information sources enhance authority and consistency while potentially reducing information inclusiveness; diversified information sources improve transparency and balance while potentially weakening information focus and persuasive effectiveness.

The significant moderating influence of national institutional backgrounds on media information source utilization patterns ($\beta=0.576$, $t=2.166$, $p<0.05$) and interaction effects in prevention strategy reporting ($\beta=0.742$, $F=89.456$, $p<0.001$) further illuminate the applicability of institutional trust theory in cross-cultural media research contexts. These empirical findings indicate that media trust transmission transcends mere technical processes, constituting social construction processes deeply embedded within specific institutional environments. The highly centralized information strategy demonstrated by China's People's Daily reflects the operational logic of "institutional authority trust" under collectivistic cultural frameworks, strengthening overall information system credibility through authoritative source status enhancement. The diversified information strategy exhibited by Malaysia's The Star embodies the construction pathway of "procedural justice trust" under individualistic cultural contexts, establishing audience trust through information source diversity and balance. The precise matching effects between prevention strategies and target groups ($\beta=0.742$, $F=89.456$, $p<0.001$) and the superior predictive capacity of target group diversity for measure scope expansion ($\beta=0.587$, $t=26.234$, $p<0.001$) elucidate micro-mechanisms of media trust optimization through information relevance theory perspectives [54]. Precise strategic alignment activates audience "systematic processing" modes by enhancing information personal relevance and practical applicability, facilitating deep trust formation; while measure scope expansion satisfies audience "completeness requirements" by strengthening confidence in prevention system effectiveness, thereby elevating overall trust levels.

5.2. Systematic comparison of trust transmission models between Chinese and Malaysian media

Based on comprehensive analysis of regression findings, Chinese and Malaysian media have developed fundamentally distinct trust transmission models in COVID-19 prevention and control reporting, with these divergences originating from differential institutional environments, cultural frameworks, and media system configurations across both nations. China's People's Daily exemplifies a characteristic "authoritative centralization" trust transmission model, featuring institutional authority trust construction through highly concentrated authoritative information sources (primary sources comprising 78.5% with government institutions accounting for 45.8%) and standardized news frame selection (frame concentration index reaching 0.743). The operational mechanism underlying this model demonstrates a linear transmission pathway: authoritative information sources → unified frame construction → focus centralization → institutional trust reinforcement → behavioral compliance enhancement [55]. Within this framework, media functions as an "institutional megaphone" bridging government and public spheres, effectively directing public cognition and powerfully mobilizing collective action through reinforcement of official information source attributes and policy interpretation authority. This model demonstrates substantial advantages in crisis response scenarios, rapidly unifying perspectives, establishing consensus, and generating coordinated action, as validated by regression results indicating elevated government trust levels (4.67 ± 1.12) and robust behavioral compliance willingness (4.45 ± 1.18). Nevertheless, this model presents potential limitations:

excessive authority dependence may generate insufficient information diversity, potentially lacking adequate flexibility and responsiveness when confronting complex and dynamic social requirements.

Conversely, Malaysia's The Star manifests a "pluralistic equilibrium" trust transmission model, characterized by procedural justice trust construction through diversified information source combinations (averaging 3.47 information sources per report) and relatively balanced frame distribution patterns (frame concentration index of 0.521). The operational logic governing this model presents a networked transmission pathway: diverse information sources → frame diversification → perspective balance → professional trust establishment → rational judgment facilitation. Under this framework, media assumes an "information moderator" role, furnishing comprehensive and objective informational foundations for audiences through multi-source viewpoint presentation and multi-perspective analytical structures, promoting rational decision-making processes. The advantages inherent in this model encompass enhanced information transparency, improved audience critical analysis capabilities, and sustained media professional credibility, as demonstrated by superior objectivity perception scores (4.12 ± 1.21) and professionalism assessments (4.01 ± 1.28) reflected in empirical data [56]. However, this model may exhibit limitations regarding crisis response immediacy and uniformity, as diversified information streams may generate public cognition fragmentation, potentially compromising mobilization efficiency during emergency situations requiring rapid collective coordination. Both models possess respective strengths and weaknesses: the authoritative centralization model demonstrates clear advantages in crisis mobilization and policy implementation while potentially confronting challenges in long-term sustainability and social adaptability; the pluralistic equilibrium model excels in maintaining media independence and facilitating rational decision-making while potentially lacking optimal response velocity and consistency when addressing sudden crisis situations.

5.3. Strategic insights for media trust optimization under environmental crises

Based on comprehensive comparative analysis of trust transmission mechanisms between Chinese and Malaysian media outlets, fundamental strategic principles for media trust optimization during environmental crisis contexts can be systematically extracted. First, media institutions should implement dynamic trust strategy configurations aligned with distinct crisis development phases. During initial crisis stages, characterized by elevated uncertainty levels and intensive public anxiety responses, moderate orientation toward authoritative centralization models proves optimal, establishing foundational trust structures rapidly through enhanced primary information source weighting (achieving proportions exceeding 78.5%) and unified informational frameworks, as demonstrated by People's Daily's superior government trust achievement (4.67 ± 1.12) through concentrated reporting strategies during early pandemic phases. As crises transition into normalized management periods, media should progressively adopt pluralistic balanced approaches, sustaining long-term trust viability through increased secondary information source integration (expanding to 30-35% proportions) and enriched frame diversification. Second, precise matching principles must permeate comprehensive crisis communication processes, requiring media to establish dynamic alignment mechanisms between prevention strategies and target group configurations. The robust matching effects revealed through regression analysis ($\beta=0.742$, $F=89.456$, $p<0.001$) indicate that media should develop content customization systems grounded in audience segmentation, delivering differentiated information services corresponding to varied group risk profiles, cognitive capacities, and behavioral patterns [57]. For instance, health protection guidance should emphasize vulnerable group targeting, policy interpretation should balance authoritative content with human interest elements for mass populations, while technical specifications and international comparative analyses should increase for professional audiences. Additionally, media should construct progressive expansion mechanisms for measure scope coverage, achieving systematic enhancement of prevention measure comprehensiveness through incremental target

group diversity expansion (progressing from individual targeting to comprehensive multi-group approaches), thereby strengthening public confidence in prevention system completeness and effectiveness.

More critically, media trust optimization requires transcendence beyond purely technical strategic applications toward construction of highly adaptive institutionalized trust ecosystems. Cross-national comparative findings demonstrate that media trust transmission models under differential institutional contexts exhibit pronounced path-dependent characteristics. Consequently, media institutions should selectively incorporate advantageous elements from alternative models while preserving core institutional identities. Authoritative centralized media can moderately integrate information source diversification mechanisms, expanding secondary source proportions from current 21.5% to 30-35% levels while maintaining authoritative dominance, enhancing report inclusiveness and adaptability. Pluralistic balanced media can temporarily increase authoritative information source weighting during crisis peaks, strengthening emergency response capabilities through established "crisis mode" activation protocols. Simultaneously, media should implement real-time monitoring and feedback adjustment systems for trust effectiveness evaluation, assessing current strategic performance through regular audience trust perception indicator measurement (including authority perception, objectivity assessment, compliance willingness metrics), and dynamically adjusting information source allocation, frame selection strategies, and target group positioning based on monitoring outcomes. Ultimately, media trust optimization under environmental crises should facilitate transitions from static strategy implementation to dynamic ecosystem construction, from unidirectional information dissemination to bidirectional trust co-construction processes, and from standardized uniform models to personalized precision service delivery. Only through such comprehensive approaches can sustained trust transmission effect optimization and complete media social function realization be achieved within complex and evolving crisis environments.

6. Conclusions and prospects

6.1. Major research conclusions

This study has systematically achieved five fundamental research conclusions through comprehensive comparative analysis:

(1) Information source strategies constitute the central determinant of media trust transmission mechanisms. Regression analysis demonstrates that primary information sources exhibit significant negative correlation with news frame diversity ($\beta=-0.069$, $t=-2.764$, $p<0.01$) and significant positive correlation with policy-focused content ($\beta=0.342$, $t=12.567$, $p<0.001$), while secondary information sources demonstrate significant dispersing effects on news focus distribution ($\beta=-0.198$, $p<0.05$). This empirical evidence indicates that authoritative information sources enhance trust transmission effectiveness through unified frameworks and centralized attention, while diversified information sources achieve balanced information presentation through distributed effects, with both strategies fulfilling distinct functions in trust construction processes. This differentiated approach reflects Chinese collectivist cultural traditions emphasizing unity and authority, whereas Malaysia's multicultural society prioritizes information source diversity and inclusiveness.

(2) National institutional contexts fundamentally shape media trust transmission models. Statistical analysis confirms that country variables significantly influence media information source utilization patterns ($\beta=0.576$, $t=2.166$, $p<0.05$) and generate substantial interaction effects with prevention strategy categories ($\beta=0.742$, $F=89.456$, $p<0.001$). China's People's Daily exemplifies an authoritative centralization trust model, with primary information sources comprising 78.5% and frame concentration index reaching 0.743; Malaysia's The Star demonstrates a pluralistic equilibrium trust model, utilizing average 3.47 information

sources per report with frame concentration index of 0.521. These contrasting models respectively adapt to differential institutional environments and cultural frameworks. China's unified party leadership system necessitates media reliance on official authority for trust construction, while Malaysia's federal democratic system and multi-ethnic social composition require media to maintain trust foundations across diverse groups through pluralistic balance.

(3) Precise alignment between prevention strategies and target groups represents a critical mechanism for trust optimization. Regression findings reveal that prevention strategy categories exert highly significant impacts on target group selection ($\beta=0.742$, $F=89.456$, $p<0.001$), with strategic precision substantially improving audience comprehension, trust levels, and compliance willingness. When matching coefficients exceed 0.8, trust effect indicators average 4.56 ± 0.82 , while coefficients below 0.5 achieve only 3.21 ± 0.94 , demonstrating statistically significant differences. This validates the substantial value of personalized information services in enhancing trust transmission effectiveness.

(4) Target group diversity demonstrates superior predictive capacity for prevention measure scope expansion. Multiple regression analysis indicates that target group factors impact measure scope ($\beta=0.587$, $t=26.234$, $p<0.001$) significantly more than prevention strategy types ($\beta=0.345$, $t=12.674$, $p<0.001$), with the former's effect magnitude being 1.70 times greater than the latter. When reports encompass 4 or more target groups, measure scope indices reach 4.78 ± 0.73 , representing 65.4% enhancement compared to single-group reporting, confirming that comprehensive group coverage directly influences public trust perception regarding prevention system completeness.

(5) Differentiated media role positioning generates distinct trust effect pathways. Questionnaire validation demonstrates that People's Daily's institutional authority positioning primarily functions through authority perception (4.78 ± 0.95) → government trust (4.67 ± 1.12) → behavioral compliance pathways; The Star's professional balance positioning achieves trust transmission via objectivity perception (4.12 ± 1.21) → media trust → rational judgment sequences. Both pathways possess respective advantages, adapting to different requirements for crisis mobilization and rational decision-making, providing empirical evidence for media role optimization. The authoritative pathway of People's Daily embodies Chinese political culture's respect for authority traditions, while The Star's rational pathway reflects independent media culture and critical thinking traditions developed under British colonial influences.

6.2. Future prospects

Based on the achievements and limitations of this study, future research and practical development can be advanced in depth from the following five directions:

(1) Expanding research perspectives to construct a more comprehensive theoretical framework for media trust transmission. Although this study has made important progress in China-Malaysia media comparison, it still needs to be deepened within a broader theoretical framework and practical context. Future research should expand the scope of analysis to more countries and regions, particularly nations with different development levels, political systems, and cultural backgrounds, to verify the universality and specificity of this study's findings. Meanwhile, it is necessary to extend research subjects from traditional mainstream media to digital media platforms, including social media, short video platforms, online live streaming, and other emerging communication channels, exploring the changing characteristics of media trust transmission mechanisms in digital environments. Additionally, more theoretical perspectives should be introduced, such as network society theory, algorithmic governance theory, and digital literacy theory, to better explain trust construction patterns in the new media era. At the methodological level, future research can integrate cutting-edge technological approaches such as big data analysis, artificial intelligence

algorithms, eye-tracking, and neuroscience to achieve multi-level, comprehensive monitoring and analysis of media trust transmission processes, thereby obtaining more precise and in-depth research results. At the same time, it is necessary to extend the research subjects from traditional mainstream media to digital media platforms, including social media, short video platforms, live streaming, and other emerging communication channels, to explore the changing characteristics of media trust transmission mechanisms in the new media environment. In addition, more theoretical perspectives should be introduced, such as network society theory, algorithmic governance theory, and digital literacy theory, to better explain the patterns of trust construction in the new media era. It is particularly important to note that the supplementary validation questionnaire survey in this study has obvious methodological limitations: the sample size is only 200 (100 from China, 100 from Malaysia), and a non-probability sampling method was employed (Chinese samples were recruited through WeChat and Weibo, while Malaysian samples were obtained through Facebook and local university networks). This sample size and sampling approach are insufficient to fully represent the complete picture of audience cognition in two countries that exhibit significant differences in institutional environment, cultural background, and demographic characteristics. Although the questionnaire effectively validated key patterns discovered through content analysis, its relatively small sample size and convenience sampling characteristics limit the generalizability of audience cognition results and may weaken the external validity of the derived trust effect model and the universality of cross-cultural comparative conclusions. Therefore, future research should prioritize larger-scale probability sampling designs (recommending a sample size of at least 500-1000 per country), employ scientific methods such as stratified random sampling or quota sampling to ensure sample representativeness, and control for key demographic variables such as age, gender, education level, and geographical distribution to enhance the inferential power of research conclusions. At the methodological level, future research can integrate cutting-edge technological approaches such as big data analysis, social network analysis, artificial intelligence algorithms, eye-tracking, and neuroscience to achieve multi-level, comprehensive monitoring and analysis of media trust transmission processes, thereby obtaining more precise, more representative, and more in-depth research results. In particular, through social media big data analysis and natural language processing technology, larger-scale audience cognition data with greater ecological validity can be obtained without increasing the cost of manual surveys, thereby compensating for the inherent limitations of small-sample questionnaire surveys.

(2) Strengthening practical applications by developing intelligent tools and systems for media trust optimization. Based on the core findings of this study, future efforts should focus on transforming theoretical achievements into operational practical tools, providing scientific trust management solutions for media institutions, government departments, and social organizations. Specifically, AI-based media content optimization systems can be developed that automatically recommend optimal information source configurations, frame selections, and target group positioning strategies according to different crisis types, development stages, and audience characteristics. Simultaneously, real-time trust effect monitoring platforms should be established that dynamically track the trust transmission effects of media reports through natural language processing, sentiment analysis, social network analysis, and other technical means, providing data support for strategy adjustments. Furthermore, cross-cultural media trust dialogue mechanisms should be constructed to promote experience exchange and cooperative learning among media institutions from different countries and regions, advancing the overall improvement of global media trust governance levels.

(3) Deepening theoretical exploration to advance precision and personalization research in media trust transmission. As social differentiation deepens and individual differences become more prominent, future media trust research needs to pay greater attention to micro-level individualization and contextualization characteristics. In-depth exploration should be conducted on differences in trust formation mechanisms

among audience groups with different demographic characteristics, psychological traits, cognitive styles, and media usage habits, establishing more refined audience classification systems and personalized trust prediction models. Meanwhile, research on dynamic change processes needs to be strengthened through longitudinal tracking designs to analyze in depth the complete process of media trust formation, development, change, and repair, revealing temporal patterns and stage-specific characteristics of trust transmission. Based on this foundation, further exploration should be conducted on interaction mechanisms between media trust and other types of trust (such as government trust, interpersonal trust, institutional trust), constructing more complete theoretical models of social trust ecosystem to provide scientific guidance for promoting overall social trust levels.

Conflict of interest

There is no conflict of interest.

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Questionnaire survey data and results: Cross-national comparison of media trust perception

Survey methodology

A supplementary questionnaire survey was conducted to validate the findings from content analysis regarding media trust transmission mechanisms between China and Malaysia. The survey employed stratified random sampling, recruiting 200 respondents (100 from each country) aged 18-65 who regularly consumed COVID-19 related news during the pandemic period. The Chinese sample was recruited through online platforms including WeChat and Weibo, while the Malaysian sample was obtained through Facebook and local university networks. Data collection was conducted between March and April 2025.

The questionnaire consisted of 47 items across six dimensions: overall media trust (8 items), information source credibility (9 items), news frame perception (7 items), risk perception (6 items), behavioral compliance intention (8 items), and demographic characteristics (9 items). All attitudinal items used 7-point Likert scales ranging from 1 (strongly disagree) to 7 (strongly agree). Reliability analysis showed satisfactory internal consistency with Cronbach's α ranging from 0.782 to 0.891 across all dimensions.

Demographic Characteristics

Table 11. Demographic profile of survey respondents.

Characteristics	China (n=100)	Malaysia (n=100)	Total (n=200)
Gender			
Male	45 (45.0%)	48 (48.0%)	93 (46.5%)
Female	55 (55.0%)	52 (52.0%)	107 (53.5%)
Age Groups			
18-25	23 (23.0%)	28 (28.0%)	51 (25.5%)
26-35	32 (32.0%)	29 (29.0%)	61 (30.5%)
36-45	28 (28.0%)	24 (24.0%)	52 (26.0%)
46-55	12 (12.0%)	13 (13.0%)	25 (12.5%)
56-65	5 (5.0%)	6 (6.0%)	11 (5.5%)
Education Level			
High School	8 (8.0%)	12 (12.0%)	20 (10.0%)
Bachelor's Degree	67 (67.0%)	58 (58.0%)	125 (62.5%)
Master's Degree	21 (21.0%)	24 (24.0%)	45 (22.5%)
Doctorate	4 (4.0%)	6 (6.0%)	10 (5.0%)
Monthly Income (USD)			
<500	15 (15.0%)	22 (22.0%)	37 (18.5%)
500-1000	34 (34.0%)	31 (31.0%)	65 (32.5%)
1001-2000	28 (28.0%)	25 (25.0%)	53 (26.5%)
2001-3000	16 (16.0%)	15 (15.0%)	31 (15.5%)
>3000	7 (7.0%)	7 (7.0%)	14 (7.0%)
Primary News Source			
Traditional Media	56 (56.0%)	34 (34.0%)	90 (45.0%)
Social Media	32 (32.0%)	45 (45.0%)	77 (38.5%)
Online News Platforms	12 (12.0%)	21 (21.0%)	33 (16.5%)