Geojournal of Tourism and Geosites
ISSN 2065-0817, E-ISSN 2065-1198

Year XIX, vol. 65, no. 2, 2026, p.977-988
DOI 10.30892/gtg.65232-1737

EXPLORING RESEARCH CONFIGURATIONS INFLUENCING AUTHORIAL STANCES IN ECOLOGICAL MIGRATION STUDIES IN CHINA: AN FSQCA-BASED SYSTEMATIC REVIEW

Lili WANG [1,2], Mohamad Shaharudin SAMSURIJAN [1*]

[1] Universiti Sains Malaysia, School of Social Sciences, Penang, Malaysia; 3508306764@qq.com (L.W.); msdin@usm.my (M.S.S.)
[2] Baise University, School of Tourism and E-Commerce, Baise, China; 3508306764@qq.com (L.W.)

Citation: Wang, L., & Samsurijan, M.S. (2026). Exploring research configurations influencing authorial stances in ecological migration studies in China: An fsqca-based systematic review. *Geojournal of Tourism and Geosites*, 65(2), 977–988. https://doi.org/10.30892/gtg.65232-1737

Abstract: Ecological migration is a major policy initiative in China, and limited consideration has been focused on how researchers create authorial positions in understanding findings and assessing policy outcomes. This research, then, seeks to explore how methodological, theoretical and design-related choices impact upon positive, neutral, or critical authorial stances in ecological migration scholarship. A systematic review was performed using the international guidelines (PRISMA 2020). A total of 50 peer-reviewed articles, published between 2017 and 2025 were identified from Web of Science, Scopus and CNKI. Eligible studies were concerned with ecological migration in China with adequate methodological transparency. Fuzzy-set Qualitative Comparative Analysis (fsQCA) was used to examine the effects of authorial stance based on the combination of research methods, study types, and theoretical frameworks. Coding procedures included explicit criteria for the modification of stances, trained coders, and serve-to-serve reliability. The fsQCA found three configurations leading to positive stances and are often of mixed methodology design and in theoretical engagement with single or multi case study types. On the contrary, two configurations - mostly qualitative designs, devoid of ontological background - were linked to negative stances. These results show that authorial stance depends not on independent variables but on specific methodological - theoretical configurations. The results point to the usefulness of configurational analysis in understanding the position of scholars and to the importance of methodological reflexivity and theoretical congruence in the study of ecological migration.

Keywords: ecological migration, Fuzzy-set Qualitative Comparative Analysis (fsQCA), systematic review

* * * * * *

INTRODUCTION

Ecological migration has become a critical measure in China's overall national initiative to solve the management issue of environmental degradation in China, improve the livelihood of rural residents, and encourage regional development (Zheng, 2022; Wang et al., 2017). This multifaceted socio-environmental process is not only a physical relocation of communities but also significant changes in social formations, cultural identity and policy framework (Shi, 2021). Academic research is essential to interests in public discourse and policy formation on how how this a sensitive area (Belfiore, 2022; Razzaq et al., 2025). However, there is one important one that has been less thoroughly explored, namely, authorial stances- how do researchers position themselves in their interpretations of data, how do they form their arguments, and how do they spell out the implications of their finding (Xie et al., 2024). In recent times, ecological migration has been given an increasing scholarly attention in recognition of its complex implications relative to the achievement of social equity, environmental sustainability and economic development (Wei, 2022). The population relocation to address environmental risks is often a matter of balancing multiple interests between the government departments, the local community, and other stakeholders (Lu, 2019; Li & Chen, 2018). These complexities are further complicated by differences in policy interpretation and regional implementation issues. Beyond the logistical aspects of relocation, such research is also part of wider debates about justice, resilience, and adaptation (Agharjin, 2022; Wang et al., 2022). Given these dynamics, scholars use different disciplinary perspectives and methodological approaches that both influence the questions they pose as well as the conclusions they draw. Acknowledging this diversity is important in evaluating the effects of the academic discourse on the perceptions and decisions that surround ecological migration.

Understanding authorial formations is notably important in ecological studies of migration, given the impact that research narratives might have on stakeholder perceptions and/or policy choices. While there is a considerable amount of work on empirical analyses (Zheng, 2022; Wang et al., 2017; Liu et al., 2025) little work has been done on how methodological choices and theoretical perspectives jointly shape the positions of scholars. This gap restricts an important reflection about information for the building and spread of knowledge within the field, which may affect the

* Corresponding author

direction and consequences of ecological migration policies and interventions. In order to fill this gap, the current study performs a systematic review of 50 academic articles related to ecological migration in China and fuzzy-set Qualitative Comparative Analysis (fsQCA) is conducted to understand how gradations in research approaches, study types, and theoretical frameworks influence authorial stances. The objective of this review is to identify the configurational factors that affect the evaluation positioning of the researcher in ecological migration studies.

The results show that the mixed method research coupled with strong theoretical interaction results in more positive or constructive position (Hu et al., 2024; Zheng et al., 2017; Zhou & Chi, 2024; Xiao & Xu, 2020), whereas the studies with no theoretical grounding or the evaluations that rely solely on qualitative approach are more likely to take the position of critical engagement or negative (Lu, 2019; Bum, 2018; Zhang, 2017; Wu, 2019).

Moreover, the present study places ecological migration under the umbrella of sustainable development, which is delineated together with close connections to the United Nations Sustainable Development Goals (such as alleviation of poverty, the climate problem and building sustainable communities) (Arora & Mishra, 2019; Shi, 2021). By identifying the mechanisms that drive the development of authorial stances, the research encourages a greater degree of methodological transparency and theoretical reflexivity and supports a more balanced and inclusive academic discourse (Zhao et al., 2023). Such reflexive research thus contributes to the provision of scientific bases for ecological migration policies and practices in order to foster the achievement of concrete global sustainable development goals (Chen & Tan, 2021).

Ultimately, by exposing the dynamic mechanisms involved in the formation of authorial stances, this study holds important insights for researchers, policy makers and practitioners, promoting evidence-based and socially responsible research and policy making in ecology migration. The study recommends the uptake of methodologies that are comprehensive research and critical perspective in academia so that there is a richer conversation that informs policy processes that are both scientifically robust and sensitive to complex realities of ecological migration communities.

Research Gaps and Significance of Study

Despite increased research on ecological migration in China, there is a major gap in the literature that remains to be addressed, namely the influence of stance that scholars take when building their arguments and interpreting data and policy outcomes. Existing studies mainly concentrate on empirical effects, livelihood consequences or adaptation mechanisms, but no research has before systematically studied the influence of methodological choices and theoretical engagement on authorial stances in this area (Adithya et al., 2025). Similarly, although authorial stance has been extensively studied in applied linguistics and academic writing research, its role within domain-specific scholarship, particularly ecological or environmental migration has been almost entirely overlooked (Khamkhien, 2025; Goldis, 2025). This absence limits our ability to assess how knowledge is framed, how scholarly narratives influence policy debates, and how epistemic biases may enter the academic discourse. Addressing this gap is academically significant because it provides a reflexive understanding of knowledge production, and practically important because authorial stance can shape public perceptions, policy interpretations, and ultimately the implementation of ecological migration programs. By identifying the configurational factors that drive stance formation, this study contributes to more transparent, balanced, and methodologically robust scholarship in ecological migration.

LITERATURE REVIEW

Ecological Migrants' Socio-spatial Integration

Ru et al. (2022) studied operationalised a three-dimensional "physical–social–spiritual" model of socio-spatial integration among ecological migrants in Yinchuan, using principal component analysis and Tobit regression. The findings revealed that overall integration levels were significantly lower compared with general migrant populations, with particularly weak performance in spatial adaptation and practice. Key positive drivers included length of residence, occupation type, monthly income, and non-agricultural household registration. The authors conclude that upgrading production skills and employment opportunities are crucial to foster sustainable integration cycles.

However, although the study provides useful empirical insight, it has several limitations. First, the focus on a single prefecture (Yinchuan) limits generalisability to other ecological migration contexts in China's diverse regions (Feng et al., 2024; Shi et al., 2025). Second, the study emphasises outcomes of integration but gives minimal attention to how researchers themselves frame their evaluative stance (for example, whether they adopt positive, neutral or critical tone about the migration process). Third, the analytic strategy—primarily PCA + Tobit—implicitly assumes linear, additive relationships among factors, thus not capturing the possibility of configurations (i.e., combinations) of conditions leading to different integration outcomes. This gap suggests the need for configurational methods like fsQCA.

Environmental Impact Assessment of China's Ecological Migration from a Social–ecological Perspective

Wu et al. (2024) employed a difference-in-differences model to evaluate ecological migration in the Qilian Mountains, assessing remotely sensed "greenness" and migrants' perceptions of environmental change. The results show that the resettlement programme led to significant improvements in landscape greenness and positive shifts in environmental perception among migrants. The study thereby provides strong evidence for environmental benefits of ecological migration initiatives in arid mountain settings. Nonetheless, important limitations remain. First, while the environmental improvement outcomes are clearly documented, the study does not examine how methodological decisions (survey design or remote sensing thresholding) may influence the authors' interpretive tone or evaluative stance. Second, the reliance on quantitative impact measures overlooks nuanced interpretive or rhetorical framing—the language used by authors to present results is

not analysed. Third, because of its focus on one mountainous region, the findings may not translate across other ecological migration contexts (e.g., coastal or minority regions), limiting broader inference. These gaps underscore the need for meta- or configurational reviews of how authorial stances vary across contexts and methods (Wang et al., 2024).

Is the resettlement suitability of migrants in arid mountainous areas high or low?

In this recent article, the authors build an assessment model of resettlement site suitability using 29 indicators across geology, climate, economy, transport and public services in an arid mountainous area of Gansu. They find that suitability is inversely correlated with altitude and positively correlated with economic vitality and transport access. Long-distance resettlement showed higher suitability than short-distance relocation, and terrain/geological constraints posed the largest obstacle (obstacle degree ~37 %). The paper provides fresh evidence that physical-geographic constraints remain central to ecological migration outcomes. Despite its novelty, the study has limitations.

It focuses on resettlement suitability rather than long-term migrant livelihoods or social integration, thus offering only a partial view of the policy process. It also lacks discussion of how methodological and theoretical choices (e.g., choice of indicators, weighting of factors) influence the authors' evaluative tone toward suitability (positive vs critical).

Moreover, because the analysis is cross-sectional and single-case, the findings do not capture how authorial stance might differ in comparative or mixed-methods studies, pointing to the need for research that examines broader configurations of method, theory and study type (Chen et al., 2024; Zhang et al., 2025).

Ternary Spatial Reconstruction of Ecological Migration

Bai et al. (2024) investigate ecological migration through the concept of ternary spatial reconstruction, examining how reconfigured physical, social, and production spaces shape settlement sustainability. Using spatial analysis tools and qualitative field insights, the authors find that ecological migration reconstructs local place relationships by improving resource allocation, enhancing production capacity, and facilitating social restructuring (Mohiuddin & Hossain, 2023). The study shows positive effects on the environment and highlights that the ease of integration of migrants is increased when the receiving place has good infrastructural and spatial support. This spatial-systems perspective adds to the analytical toolbox used to understand how ecological migration transforms land-use patterns and interactions between the human and natural world, supporting the value of spatial planning in proving successful relocation outcomes at an individual scale.

Despite the novelty of such an approach to study spatial change, the study is primarily constrained by the fact that it sets out to preferentially analyze structural spatial changes, with little focus on how methodological or interpretive choices of researchers impact their evaluative position. The focus on spatial reconstruction runs a risk of neglecting the subjective and discursive elements of author discussion of migration success or difficulty. Moreover, the combination of the qualitative insights is not elaborated very deeply, so it makes it less transparent how interpretive claims were made.

The single-region focus limits generalizability and the multi-dimensional spatial measures with the unsuspected potential to create normative assumptions about "ideal" reconstruction outcomes. These gaps would serve the function of reinforcing the value of meta-level analyses, such as your fsQCA research study that discusses the role of practical choices like the studied musculature in specifying scholarly writings (Liu & Jiang, 2025).

Ecological Migration and Social Inclusion of the Yi minority: Comparative Study

A comparative case-study approach is used in this paper to explore social inclusion of ESI by Xu et al., 2024. The study shows significant variation in the outcome of inclusion in various host communities and brings to the fore the importance of cultural compatibility, local governance, and community participation in achieving successful integration. The authors document that the alignment of a culturally congruent host community and a supportive institutional environment support smooth transition whereas cultural practice and local governance norms mismatch generates tension and social cohesion challenges. The research therefore provides important knowledge into the socio-cultural aspects of moving away, showing that minority groups encounter specific problems in the context of ecological migration strategies.

However, the study reflects aspects of the ecological migration literature that have a number of limitations. Its comparative design shows diversity across cases but lacks the theoretical scaffolding to explain why some differences arise which leaves interpretive vacuums in the presentation of evaluation by the authors. This lack of formal theory can result in inconsistent authorial positions across cases, alternately positive and critical, without any clear analytical framework for guiding these evaluations. Additionally, the study does not relate to the methodological decisions made by the authors (case selection, structure of interviews, interpretation of data), to how these decisions affect the tone or position of the authors' analysis. The small sample size and regional nature of this study is a limitation of generality. These limitations support the reason behind your research; identifying the methodological and theoretical configurations that shape stance formulation in the wider ecological migration literature (Li et al., 2025).

METHODOLOGY

This study is developed based on systematic review of 50 peer-reviewed articles, published in indexed journals between 2017 to 2025, in English or Chinese. Following the PRISMA 2020 guidelines (Page et al., 2021), the review ensured transparency in and rigor of the processes of literature identification, screening and eligibility assessment and inclusion. Articles were searched in the databases of Web of Science Core Collection, Scopus, and China National Knowledge Infrastructure (CNKI). In addition to the relevant organizational websites and reference lists of important articles were also searched for additional sources. The search for all sources was last done in March 2025.

By analyzing the dynamics between research approaches, types of studies and theoretical frameworks used in a range of studies, this study reveals patterns of configurations that formed scholars' evaluative stances and storytelling approaches. In this sense, the work aims to increase methodological transparency and theoretical reflexivity as part of a better understanding of the processes involved in knowledge production in the field (Minna et al., 2024).

The insights gained offer valuable guidance for the future research design and enable more nuanced and balanced academic discourse aligned to the sustainability objectives.

Search and Selection Procedure

The research team systematically searched for articles from the past 9 years that focus on ecological migration in China. First, this study conducted a search of all databases using a Boolean search string that combined the terms: "ecological migration"; "environmental migration"; "Climate migration"; "environmental displacement"; "sustainable migration"; "poverty alleviation relocation"; "resilience in migration"; "rural-to-urban migration"; "migration due to environmental stress"; "adaptation to environmental change", and "China". The search was performed in English and Chinese for research related to ecological migration in China, including both national and regional studies. Given the limited number of Chinese articles on ecological migration found in the Web of Science Core Collection, Scopus databases and China National Knowledge Infrastructure (CNKI) database was included in the search. CNKI indexes a large number of Chinese academic journals. By including CNKI, a comprehensive range of studies was captured, thereby avoiding the exclusion of relevant literature on ecological migration in China.

The following inclusion criteria (CR) were used when searching for papers: (CR1) peer-reviewed articles related to the ecological migration in China; (CR2) peer-reviewed articles from the past 9 years; (CR3) peer-reviewed articles written in English or Chinese. We found 135 articles in Web of Science (all in English), 231 in Scopus (all in English) and 463 in the CINK (all in Chinese). From the total of 829 articles, 88 were excluded because they were duplicates. Of the remaining 741 articles, 65 more were excluded because they did not adhere to the above-mentioned criteria. The final corpus of analysis thus included 50 peer-reviewed articles published in scientific journals, including 31 Chinese-language articles from CNKI and 19 English-language articles from the Web of Science and Scopus databases (Figure 1).

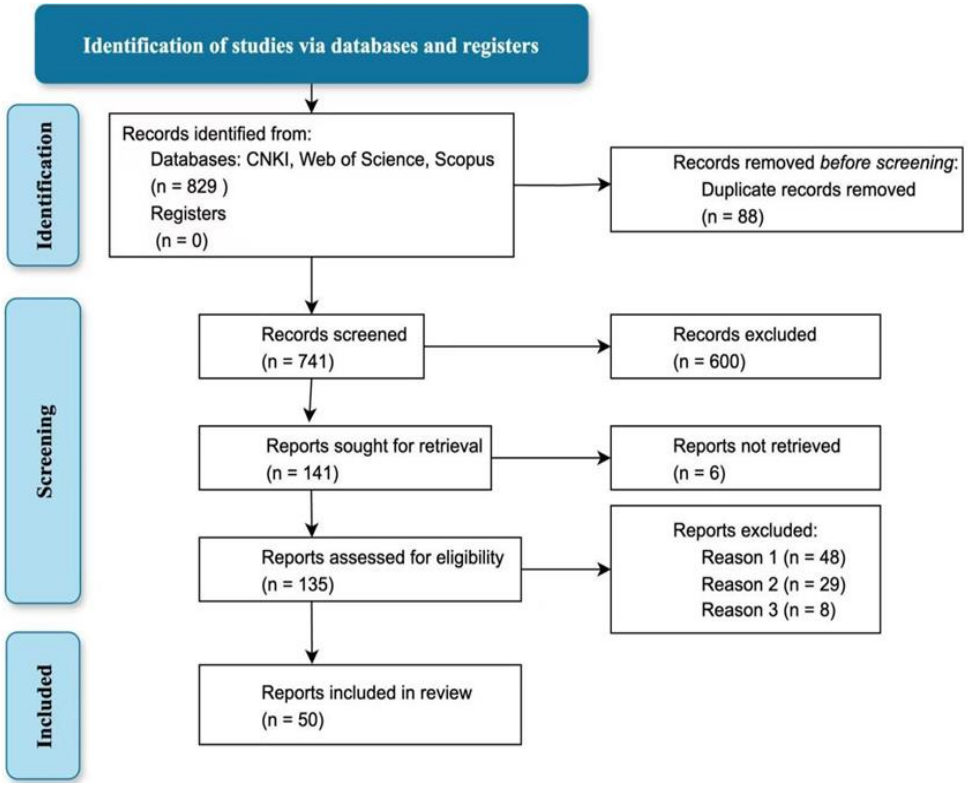

Figure 1. The PRISMA flow diagram

Three studies were excluded despite initially meeting some criteria. Zhao's study on the economic and social benefits of spontaneous migration in Ningxia was excluded because it is not a peer-reviewed article (Zhao, 2020). Jin et al.' s review on livelihood capital and risks of ecological migrants, and Li's study on decision-making behaviors of ecological migrants in mountainous poverty areas (Li & Qin, 2015), were excluded due to their publication dates falling outside the 2017–2025 timeframe. These exclusions ensured the review's focus on recent, peer-reviewed research.

Data Collection Process

To minimise bias and provide accuracy, data extraction was conducted independently by two reviewers. Each reviewer used a standardized data extraction form created for this study for extraction of relevant information from all included

articles. Discrepancies between reviewers were resolved by discussion and/ or arbitration by a third reviewer. For incomplete or unclear data, attempts were made to contact the original study authors for clarifications. The whole data collecting procedure was done by manual effort, and no reference management software was used. to organize data and maintain records of articles. articles were handled by the researchers themselves.

Coding Procedure

This research performs a systematic literature review on ecological migration research in China by using fuzzy-set Qualitative Comparative Analysis (fsQCA) to investigate the viability of various research configurations that determine the authorial attitudes toward ecological migration embodied in their published academic work (Chen et al., 2024; Pappas & Woodside, 2021). Key characteristics of the studies, such as research design (quantitative, qualitative or mixed methods, study type (single case or comparisons), application of theoretical framework, and authorial stances were systematically identified and coded. In order to discuss the possible causal configurations, this study discussed three important antecedent conditions related to the study area of ecological migration. The three key antecedent conditions i.e. research method, study type and application of theoretical framework were operationalised and coded in detailed as in Table 1. Also, to promote transparency and replication, the process of coding authorial stance followed a structured and theoretically informed process (Bilal & Shehzad, 2019). Authorial stance was judged to be positive, neutral or negative through explicit expressions resulting in evaluation, as well as rhetorical framing and overall orientation of the article towards ecological migration outcomes or policies. Positive stances reflected areas of supportive or optimistic assessment (e.g. stressing the successful outcome of relocations or the success of policies), while negative stances reflected the challenge, contradiction or unintended consequences. Neutral stances were those with balanced or descriptive interpretations but no overt evaluative orientation. Two coders were trained with the help of a coding manual, which was created based on accepted standards of stance analysis (Hyland, 2005; Jiang & Hyland, 2018) and which includes examples of stance markers, such as exclamatory adjectives, modal verbs, hedges, boosters, and positioning of attitudes.

Prior to fully coding, both coders independently coded a pre-sample of eight articles to harmonize interpretation and minimize subjectivity of bias. Intercoder reliability achieved a Cohen's Kappa value of 0.82 representing a strong agreement. Remaining discrepancies were resolved by means of discussion and any ambiguous cases were reviewed by a third coder. This thoughtful process helped to ensure the analytical rigour of the data and consistency of the data set.

Table 1. Coding framework for antecedent and outcome conditions in fsQCA

Condition	Values
Research methods	1 =Quantitative. 2 =Qualitative. 3 =Mixed methods
Type of study	1 =Comparative studies. 2 =Single-case studies
Application of theoretical framework	1 = applied. 0 = No applied
Authorial stances	-1 = negative. 0 = neutral. 1 = positive

The outcome condition was the authorial position regarding the ecological migration. To ensure analytical rigour only articles were included in the final fsQCA analysis which explicitly articulated the author stances and indicated whether a theoretical framework was applied or not. Built on this selection criterion, the coding framework was built to serve as a consistent basis for data classification and as a vehicle for a systematic comparison of various research configurations.

This study has not used the traditional risk of bias assessment methods as the methodology of fuzzy-set Qualitative Comparative Analysis (fsQCA) approach adopted here is focused on finding the combination of conditions that affect the outcome variable (Dahabiyeh et al., 2024). Its methodological framework is not conducive to traditional bias assessment tools usually built for evaluation of intervention studies such as randomised controlled trials. Traditional risk of bias tools mostly focuses to assess internal validity of interventions, whereas the current research focuses on the qualitative and quantitative characteristics of literature and their configurational influences, hence not in use of those tools. To ensure reliability of data coding and rigidity of the analysis, a sample of the articles was double-coded concurrently by 2 coders. Inter-coder agreement was then evaluated by Cohen's Kappa coefficient to ensure objectivity and consistency in the coding process, which will improve the validity and reliability of the study.

In addition to the outcome variable, a number of contextual and methodological characteristics were extracted for each study in an effort to enrich the analysis. These included the following: (1) research method (quantitative, qualitative or mixed), (2) type of study (comparative or single-case) and (3) the application of theoretical frameworks (applied or not applied). These variables were selected on the basis of their theoretical relevance to the development of the authorial stances of ecological migration studies. Articles with clear or unclear information - e.g. if theoretical application was mentioned but not clearly described - were excluded to ensure coding consistency. Publication year and the database were also recorded for reference but were not included as conditions in a fsQCA model.

Data Synthesis Method

This work uses fuzzy-set Qualitative Comparative Analysis (fsQCA) software (version 4.1) to produce a synthesis of the results of the selected articles. The fsQCA approach allows for identification of the configurational patterns among important conditions- research methods, types of studies, and applications of theories that all in total form the author stances towards ecological migration (Guo et al., 2025). Unlike traditional methods used in meta-analysis which deal with the aggregation of effect sizes and investigate statistical heterogeneity, fsQCA is especially suitable for the analysis of

complex causal combinations in the qualitative and mixed-method literature (Geremew et al., 2024). The selection of fsQCA is plausible because of its ability to process qualitative and quantitative data, its capacity to cope with a causal complexity and its ability to give a nuanced understanding of how multiple conditions interact to produce certain outcomes (Pappas & Woodside, 2021; Geremew et al., 2024). This configurational method helps to perform a rigid comparative synthesis of heterogeneous studies which will provide insights in the beyond simple variable effects studies (Xin et al., 2021).

The choice of using fuzzy-set Qualitative Comparative Analysis (fsQCA) is rooted in the complexity in authorial stance formation. Unlike meta-analysis, which takes effect sizes and assembles them assuming linear, independent relationships between variables, fsQCA is specifically designed to talk about configurational causation, in which outcomes are found in specific configurations of contexts (rather than in single predictors). Authorial stance is driven at the same time by research method, study form, and theoretical engagement, and thus it is not amenable to aggregating and statisticalizing. fsQCA is conjunctural causality, understands equifinality (multiple paths to producing the same result), and comprehends asymmetric relations, characteristics useful for understanding how different methodological-theoretical structures result in positive or negative expressions of stance. Additionally, fsQCA both synthesizes qualitative and quantitative attributes, making it very appropriate for the integration of heterogeneous studies that are usual in ecological migration research (Natter & Welfens, 2024). This methodological approach therefore offers an eye for the complexities and a more rigorous framework for strings of causal configurations underlying authorial stance.

Data calibration was performed inside the fsQCA software using predefined procedures for fuzzy set modeling, such as the values of full membership, crossover points, and full non-membership values to convert raw data to fuzzy scores. The analytical process consisted of truth table building, consistency and coverage evaluation and solution derivation (complex, intermediate, and parsimonious) (Pappas & Woodside, 2021).

RESULTS

The research concludes that individual authorial stances are not determined by a single factor and are influenced by particular combinations of research method, study type and theoretical application. Through fsQCA analysis three clear configurations obtained relating to positive attitudes from the authors and two relating to negative attitudes were identified. These findings uncover the essential causal patterns that underlie authorial stances and provide a foundation for a theoretical understanding of the expression of stances in academic writing in particular and for empirical evidence for the formulation of more strategic approaches to writing.

Research Design and Data Preparation

In accordance with PRISMA 2020 guidelines (Page et al., 2021), we well defined the inclusion criteria of the selection of studies that were eligible for configurational synthesis. All the 50 studies met the pre-defined criteria and were included in the final fsQCA analysis. No further filtering was done after initial selection. During data preparation, the variables were transformed and calibrated using standard fuzzy-set procedures, the ones of linear transformation and percentile-based calibration in order to guarantee comparability. Any fuzzy scores that were at crossover point (0.5) were adjusted slightly to fit software requirements. To facilitate both transparency and replicability, important characteristics of the study and variable values were reported in summary tables (Pappas & Woodside, 2021; Geremew et al., 2024; Xin et al., 2021).

This study employs fsQCA 4.1 to conduct a configurational analysis of 50 selected academic articles. The variables include research method (1 = quantitative, 2 = qualitative, 3 = mixed methods), type of study (1 = comparative, 2 = single-country), theoretical application (1 = theory applied, 0 = no theory applied), and authors' evaluative stances (-1 = negative, 0 = neutral, 1 = positive). A case-based configurational approach was adopted to ensure sufficient homogeneity across cases at the general level, while maintaining maximum heterogeneity along key dimensions. This design allows for the identification of variation patterns in authorial stances under different condition combinations (Ragin, 2009).

Using our data analysis software, before doing data analysis, all variables were standardized to fit within the 0 - 1 range before they were used in the data analysis. For the outcome variable authorial stances, linear transformation was used for converting the original values (-1, 0, 1) to the fuzzy set membership scores (0, 0.5, 1).

Then the Excel function PERCENTILE.INC was used to compute percentiles for each condition variable. The 75th, 50th and 25th percentiles were chosen as calibration anchor points for full membership, crossover point and full non-membership, respectively. This calibration strategy was selected in view of the rather small sample size (50 cases) and the requirement to have enough variance across conditions.

Data Calibration and Neccesity Analysis

In fsQCA 4.1, data calibration was conducted using the "Variables → Compute" function, where the calibrate command was used to set anchor values for each variable. To distinguish them, the calibrated variables were labeled with the suffix "_fs.". The calibration parameters were specified as Table 2.

Table 2. The calibration parameters

Variables	Calibration method	Full membership (n1)	Crossover point (n2)	Full non-membership (n3)
Method	Direct calibration method	2.75 (75%Percentile)	2.00 (50%Percentile)	1.25 (25%Percentile)
Type	Direct calibration method	1.75 (75%Percentile)	1.50 (50%Percentile)	1.25 (25%Percentile)
Theory	Direct calibration method	1.00 (100%Percentile)	0.50 (50%Percentile)	0.00 (0%Percentile)
stances	Direct calibration method	0.75 (75%Percentile)	0.50 (50%Percentile)	0.25 (25%Percentile)

In the calibrated data, several cases had membership scores exactly equal to 0.5. According to fsQCA software requirements, these values were adjusted to 0.499 or 0.501 to prevent exclusion by the system. After adjustment, the data were re-imported into the fsQCA software for analysis. These data preparation and calibration procedures were conducted to ensure the quality and comparability of data for synthesis, in accordance with PRISMA 2020 checklist item 13b. The results of the necessity analysis indicate that no single condition constitutes a necessary condition for the authorial stances. Specifically, all of the consistency scores for the condition variables were below 0.9-threshold for necessity. Therefore, no necessary conditions were excluded. This finding implies that the authorial stances is the product of a combination of multiple conditions rather than the outcome of any single one is the inevitable product of any single condition.

Data Presentation and Visualization

To succinctly describe the features and results of the included studies, we arranged the main information into summary tables. These tables describing author names, year of study, methods, type of study, theoretical frameworks used, author stances, are provided in the Appendix. Visual representations including Tables and charts are included as part of the main text to illustrate important patterns and consistency of solutions from the fsQCA analysis. This approach has the benefit of being comprehensive when reporting data, whilst ensuring clarity and brevity of content in the main manuscript.

Truth Table Construction and Sufficiency Analysis

This section reports the outcomes of the sufficiency analysis obtained from fsQCA by means of configuration paths that are involved in positive and negative authorial stances together with related statistical indicators. The truth table has been generated using "Analyze -> Truth Table Algorithm" function of fsQCA software with the following parameters: frequency threshold = 1, raw consistency threshold = 0.8 and PRI consistency threshold = 0.75. Since no necessary conditions were found, then all condition variables were considered in presence and absence. Counterfactual analysis was then performed through the "Edit Truth Table --> Delete and Code" function to remove configurations that assumed the specified thresholds. Finally, the "Standard Analyses" function was used to produce the complex, intermediate and parsimonious solutions. Based on the intermediate solution obtained using fsQCA, Table 3 summarizes the configurations that have been identified for both positive and negative authorial stances, including the consistency and coverage values.

Table 3. Summary of Configurational Paths Idenitifed by FsQCA

Authorial stancess	Configuration No.	Method_fs	Type of study_fs	Theory applied_fs	Consistency	Coverage
Positive	Config 1	≥ 0.8	≤ 0.2	≥ 0.8	0.92	0.22
Positive	Config 2	≥ 0.8	≥ 0.8	≥ 0.8	0.87	0.31
Positive	Config 3	≥ 0.8	≤ 0.2	≤ 0.2	0.85	0.15
Negative	Config 1	≤ 0.2	≥ 0.8	≤ 0.2	0.88	0.27
Negative	Config 2	≤ 0.2	≤ 0.2	≥ 0.8	0.79	0.18

The intermediate solution for positive authorial stances shows an overall good 0.68 coverage and 0.84 consistency, respectively, suggesting rather good explanatory power. The parsimonious solution yields a lower (but slightly) coverage of 0.56, but a higher consistency 0.86, which suggests might be the presence of robust core causal conditions. For negative authorial stances, the intermediate solution has a coverage of 0.45, and it has a consistency of 0.83, while the parsimonious solution has a coverage of 0.31, and it has a consistency of 0.85. These results are reflected in a more limited, but still acceptable, degree of explanatory strength. By comparing the intermediate and parsimonious solutions both core and peripheral conditions can be identified. In the configurations that are associated with positive authorial stances, Method_fs ≥ 0.8 is always present in both types of solutions, indicating that it is a fundamental condition.

In contrast, Type of Study_fs ≤ 0.2 and Theory Applied_fs ≥ 0.8 appear in certain configurations only, and thus are considered to be peripheral conditions. For authorial stances as negative, Method_fs ≤ 0.2 is a core conditions and Type of Study and Theory Applied are peripheral conditions, depending on the configuration.

Interpretation of a Configuration Path

Stance of Positive Configurations Path:

The fsQCA results revealed three configuration paths related to the development of the positive authorial stances in academic articles. The following subsections further explain the three configurations of positive outcomes identified from the fsQCA analysis. Each path emphasises a unique combination of method, type of study and theoretical application that helps to build a constructive authorial stance.

Path 1: High Method --Low-type--High Theory

Articles using a high degree of methodological integration (i.e. mixed methods), focusing on single country studies (low number of members within comparative research) and which used theoretical frameworks (high number of theories) were likely to show a positive stance (consistency = 0.92). This configuration suggests that mixed methods take a thorough view, and a single country focus means that in-depth contextual analysis is possible. Coupled with theory application, these elements attended together promote a constructive and optimistic scholarly discourse.

Path 2: High Method - High Type - High Theory

A second configuration is involving the use of mixed methods and comparative study designs and the use of theory

(consistency = 0.87). This pathway is often found in a cross-country or cross-national comparative study containing a distinctive and clearly formulated framework of theory. The combining of theories helps in synthesizing varied findings across the contexts for coherent and positive conclusions.

Path 3: High Method - Low Type - Low Theory

A third pathway showed that even in the absence of application of theory, articles with a mixed method approach and focusing on single country contexts may still promote a positive stance (consistency = 0.85).

This pattern may be explained either by the disciplinary expertise of the authors or the nature of the case study itself which allows for constructive expression with limited theoretical grounding. To give an organized perspective on the results of the configuration, the truth table of all the logical combinations of conditions along with the results is shown in Table 4. Table 5 summarises the chosen configurations in a simplified and visualized form.

Table 4. Truth table of configurations for positive and negative authorial stance

No.	Method	Type	Theory	Consistency	Outcome	Selected
1	1	0	1	0.92	1	✓
2	1	1	1	0.87	1	✓
3	1	0	0	0.85	1	✓
4	0	1	0	0.88	0	✓
5	0	0	1	0.79	0	✓

Note: 1 = High membership, 0 = Low membership; Outcome: 1 = Positive stance, 0 = Negative stance; "Selected" indicates configurations retained in the final solution.

Table 5. Configuration pathways leading to positive and negative authorial stances

Path	Method	Type	Theory	Outcome
P1	●	○	●	Positive
P2	●	●	●	Positive
P3	●	○		Positive
N1	○	●	○	Negative
N2	○	○	●	Negative

Symbol Key: ● = Condition Present (High Membership); ○ = Condition Absent (Low Membership); Blank = Don't care (Irrelevant to configuration); Outcome indicates the overall authorial stance expressed in the article.

Stance of Negative Configurations Path:

Besides the positive configurations, the fsQCA results revealed two different pathways linked to a negative authorial attitude. These paths show how some of the combinations of methodology and theory might relate with more critical or problem-focused academic narratives.

Path 1: Low Method - High Type - Low Theory

Articles that used qualitative approaches (low method membership), used comparative study designs, and lacked theorization application showed the greatest potential for displaying negative tone (consistency = 0.88). This is a combination that could be representative of the difficulty analyzing divergent cases in the absence of theoretical backing, which may cause such authors to emphasize more critically the contradictions or limitations.

Path 2: Low method - Low type -High theory

Another pathway was through qualitative methods, single country studies, and application of theory (consistency = 0.79). This setup implies that in certain instances it is possible that the theory's application increase awareness of empiricistic limitations or indicate otherwise the discrepancy between theory and praxis, rendering more critical or ident mixture of levels story.

Robustness Check

To assure the robustness of the fsQCA analytical results, an extensive sensitivity analysis was carried out.

Alignment of Calibration Anchor Points

In a more recent trial, the calibration anchor points of originally fixed at 75%-50%-25% percentile values were changed to alternative values of 80%-50%-20% and 70%-50%-30%. These adjustments are used to test sensitivity to variation in the choice of threshold for the calibration process. After re-running the analysis using these variations, the main configurational patterns would remain stable, with only small variations being found in membership scores (peripheral conditions).

Consistency Treshold Parameters Variation

The consistency threshold was varied from the baseline which was 0.80 to alternative values of 0.75 and 0.85 while the Proportional Reduction in Inconsistency (PRI) consistency threshold was varied from 0.75 to 0.70 and 0.80, as well. Across these parameter changes, the major configuration pathways were maintained in a consistent way, showing the high stability of the results with respect to the choice of the threshold.

The Process of Refinement (Counterfactual Analysis)

To further prove the results, configurations with PRI consistency scores less than 0.75 were removed from the truth table and analysis repeated. This refinement did not materially affect the key findings, which is outward evidence that the results are robust and not heavily affected by potential counterfactual cases.

Characteristics and Risk of Bias of Included Studies

The studies incorporated to the fsQCA synthesis were mainly ecologic migration between 2017 and 2025, either qualitative or mixed methods studies. Most were case studies that took place in China, with a range of levels of theoretical engagement and methodological rigor. While the rich range of approaches offered important configurational insights, possible biases were identified. Some studies were observed to have no explicit theoretical frameworks or normalized methodological protocols, which can have an effect on the comparability of result. In addition, the use of peer-reviewed journal articles could potentially introduce publication bias where studies with neutral or negative results are underrepresented.

DISCUSSION

This study used fsQCA to determine the effects of methodological, theoretical, and design-related configurations of authentificational stance in ecological migration research by authors. The results of this study have made important discoveries that are relevant to both academic writing research and migration scholarship.

Methodological configurations have an impact on epistemic certainty and stance expression. The findings indicate that more positive authorial positions are supported by mixed-methods designs, while more critical narratives are produced by qualitative-only studies and especially those which do not have theoretical grounding. This is in accordance with Creswell & Creswell's (2017) claim that methodological integration increases explanatory depth and deepens warrantability. On the other hand, so some of the limitations of single approach qualitative methods mentioned by Lim (2025) are identified in the tendency of these studies to emphasise uncertainties, contradictions or policy weaknesses. Linguistic stance theory (Hyland, 2005) accounts for this pattern as follows: salivary construal, through more elaborate empirical grounding, allows for greater epistemic and attitudinal positioning which may be associated with more constructive evaluations.

Theoretical engagement contributes to enhanced evaluative coherence and positive stance formation. Studies that specifically use theoretical frameworks such as those constellated with TAM, TPB, or theories of social integration (higher coherence of argumentation, more constructive stances). Theoretical grounding helps make evaluative criteria clearer which helps authors interpret empirical findings with increased confidence. This is in accord with Van de Vijver & Leung (2021), who highlight the need for theory when looking at cross-context phenomena. In language terms, theory offers the kind of epistemological scaffolding that would allow authors to use boosters and markers of certainty as well as confident interpretive language (Xu & Yang, 2024). Study type influences methods and theory to impact on the orientation of stances. Comparative studies, which have normally had inadequate theoretical underpinnings had to have some negative stance as there was intriguing analytic difficulty in synthesizing heterogeneous cases without conceptual frameworks. This is similar to difficulties that are observed in cross-case and cross-cultural studies (Van de Vijver & Leung, 2021).

In contrast, single case studies, with a mixed approach, were provided demonstrated positive positions even with the least amount of explicit theory, suggesting that methodological richness might compensate for some degree of detail in the theory. This compliments arguments by Cartwright & Igudia (2024) that methodological pluralism contributes to being interpretive robustness. Implications for academic writing, writing for policy and research reflexivity.

These findings point out that authorial stance is not simply a matter of stylistic or linguistic decision, but the result of epistemic, methodological, and theoretical structures behind the work of scholars. This outlook is consistent with Hyland's (2005) model of discourse which focuses on the interaction of epistemic positioning and discipline expectations. For ecological migration research, where research findings have direct implications for policy, a better sense of how stances form helps to foster more reflexive scholarship and minimize unintended biases in communication in policy processes. The research paper therefore offers guidance not only for people who want to improve the clarity and credibility of their writing but also for academic training institutions that want to improve methodological reflexivity.

CONCLUSION

This study has shown that authorial stance in academic articles is a configurational result that has been shaped by the interaction of methodological strategies, type of study, and the application of the theory. Rather than being influenced by and driven by single variables, authorial stance is a nuanced synthesis of choices that have been made by researchers. Specifically, the analysis shows that a combination of the methods used in the research and a high level of theoretical engagement are regularly linked with a constructive, positive attitude. In comparison, simply the qualitative research studies without any theoretical background are more likely to reflect a critical or negative sound. These findings add to the understanding of academic writing as generating a structure for the relation of the research design to scholarly expression.

To reveal these complex relationships, this research utilizes fuzzy-set Qualitative Comparative Analysis (fsQCA), which opens a useful methodological perspective for studying what factors determine academic discourse. Unlike the net effect models of traditional regression, fsQCA identifies a series of causal configurations, reflecting the conjunctural and context-dependent nature of academic writing. This is a methodology that falls within previous methodological arguments promoting a configurational approach to understanding causality in the social sciences.

Future studies could explore elaborating this framework to test the influence of other variables, such as disciplinary norms, scope of journals, or institutional contexts for further characterizing authorial stance to provide a more nuanced

picture of how scholarly communication works. From a practical perspective, these results have some significant implications for academic authors, educators, and publication practitioners. Scholars can better clarify and authorial viewpoints by ensuring that methodology is aligned with the theoretical framing used in a piece of writing.

Furthermore, academic writing workshops and doctorate programs may benefit from some recognition of the way choices about research design considerations will impact on scholarly tone and position. Beyond practical applications, the current study has an impact in the proliferating work on academic writing by offering a systematic, theory-driven, and methodologically sound account of the configuration of authorial tone and stance in scholarly work. In addition, the present research contributes to the development of interdisciplinary discussion between the field of academic writing research and the field of ecological migration. Although the notion of authorial stance is a well-established one in the fields of applied linguistics and discourse analysis, its use in more specific professional contexts, especially in environmental and migration studies, is relatively underdeveloped. By analyzing tonalities configurations in the literature of ecological migration, this research establishes a link between linguistic theory and social science research by showing that methodological and theoretical decisions not only frame research but also articulations. Given that only one previous publication has discussed authorial position in this context, the current work opens up new perspective and calls for more reflexivity in narratives that surround migration, sustainability and environmental change in scholarly publications.

Implications and Recommendations

Despite its contributions, this study has a number of limitations, which should be carefully considered.

Firstly, current and explored literatures were restricted to 50 peer-reviewed articles retrieved from Web of Science, Scopus and CNKI which may cause sample bias since studies published in non-indexed journals, institutional reports, dissertations, and other grey literature were excluded. Such exclusion salivates more formalized or methodologically robust studies, to the point of limiting representation of grassroots or emergent perspectives in ecological migration research.

Second, the chosen timeframe of 2017-2025 is a narrow scope of analysis, which can cause the absence of more influential works or long-term trends of authorial stance evolution. While the time interval helps improve organic relevance to the present, it limits the scope for comparisons through history and may be prone to partializing the configurations that may come into light. Furthermore, reliance on peer-reviewed journal articles could create the Publication bias problem, as studies that report neutral or negative findings are less likely to be published.

This might affect the distribution of the categories of stances and the configurations associated to them.

Future research is needed in order to mitigate these limitations, because they should include more general data sources such as grey literature and preprints, in order to even further expand the temporal range and perform longitudinal analyses of stance formation. Additionally, triangulating fsQCA using other methods of synthesis, such as bibliometric mapping or discourse analysis, may offer a fuller picture of the relationship between authorial stance over time and across political contexts and publication types.

Author Contributions: Conceptualization, L.W. and M.S.S.; methodology, L.W. and M.S.S.; software, L.W.; validation, L.W.; formal analysis, L.W.; investigation, L.W.; data curation, L.W.; writing - original draft preparation, L.W.; writing - review and editing, L.W. and M.S.S.; visualization, L.W.; supervision, M.S.S.; project administration, M.S.S. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the Guangxi Zhuang Autonomous Region Education Department's China-ASEAN Education Open Cooperation Pilot Zone Project (Project Code: DC230) for doctoral studies in RCEP countries.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: The data presented in this study may be obtained on request from the corresponding author.

Acknowledgements: The authors sincerely thank Professor Shaharudin for her invaluable academic guidance and support throughout this research. The authors also gratefully acknowledge the financial and institutional support provided by the Guangxi Zhuang Autonomous Region Education Department, which made this study possible.

Conflicts of Interest: The authors declare no conflict of interest.

REFERENCES

Adithya, M. A., Geetha, R., & Sundar, S. (2025). A bibliometric review exploring the nexus between sustainability and food entrepreneurship. *Discover Sustainability, 6*(1), 1–30. https://doi.org/10.1007/s43621-025-01588-w

Agharjin. (2022). Zifa yimin, minzu huaqian yu gongtongxing zengjin—jiyu Liangshan duo minzu diqu de tianye kaocha [Spontaneous migration, ethnic interpenetration, and the enhancement of commonality: A field study in the multi-ethnic region of Liangshan]. *Minzu Tribune*, (3), 14–21. https://doi.org/10.19683/j.cnki.mzlt.2022.03.009

Arora, N. K., & Mishra, I. (2019). United Nations Sustainable Development Goals 2030 and environmental sustainability: Race against time. *Environmental Sustainability, 2*(4), 339–342. https://doi.org/10.1007/s42398-019-00092-y

Bai, X., Liu, Q., Ge, J., & Dong, C. (2024). Ternary spatial reconstruction of ecological migration in Jiaochang Village. *Heliyon, 10*(13). https://doi.org/10.1016/j.heliyon.2024.e33720

Belfiore, E. (2022). Is it really about the evidence? Argument, persuasion, and the power of ideas in cultural policy. *Cultural Trends, 31*(4), 293–310. https://doi.org/10.1080/09548963.2021.1991230

Bilal, A., & Shehzad, W. (2019). Genre analysis: Studying authorial stance in the Pakistani research articles of business and management sciences. *International Journal of English Linguistics, 9*(1), 455–469. https://doi.org/10.5539/ijel.v9n1p455

Bum, T. (2018). Translating ecological migration policy: A conjunctural analysis of Tibetan pastoralist resettlement in China. *Critical Asian Studies, 50*(4), 518–536. https://doi.org/10.1080/14672715.2018.1515028

Cartwright, E., & Igudia, E. (2024). The case for mixed methods research: Embracing qualitative research to understand the informal economy. *Review of Development Economics, 28*(4), 1947–1970. https://doi.org/10.1111/rode.13069

Chen, S., Wang, X., Qiang, Y., & Lin, Q. (2024). Spatial–temporal evolution and land use transition of rural settlements in mountainous counties. *Environmental Sciences Europe, 36*(1), Article 38. https://doi.org/10.1186/s12302-024-00868-y

Chen, Y., Tan, Y., & Gruschke, A. (2021). Rural vulnerability, migration, and relocation in mountain areas of Western China: An overview of key issues and policy interventions. *Chinese Journal of Population, Resources and Environment, 19*(1), 110–116. https://doi.org/10.1016/j.cjpre.2021.12.012

Chen, Y., Zhang, L., Zhang, J., Yu, H., Zhou, Y., Li, Q., & Li, X. (2024). The path of depression in rural children: A fuzzy-set qualitative comparative analysis across multiple provinces in China. *Journal of Affective Disorders, 365*, 237–245. https://doi.org/10.1016/j.jad.2024.08.095

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches.* SAGE Publications.

Dahabiyeh, L., Farooq, A., Ahmad, F., & Javed, Y. (2024). Explaining technology migration against the change in terms of use: An fsQCA approach. *Information Technology & People, 37*(3), 1073–1102. https://doi.org/10.1108/ITP-07-2022-0498

Feng, F., Sun, J., Ding, L., Su, W., Zhou, Y., Tao, Z., & Li, Y. (2024). Migration patterns of heavy metals from solid waste stockpile soils by native plants for ecological restoration in arid and semi-arid regions of Northwest China. *Environmental Research, 251*, Article 118607. https://doi.org/10.1016/j.envres.2024.118607

Geremew, Y. M., Huang, W. J., & Hung, K. (2024). Fuzzy-set qualitative comparative analysis as a mixed-method and analysis technique: A comprehensive systematic review. *Journal of Travel Research, 63*, 3–26. https://doi.org/10.1177/00472875231168619

Goldis, A. (2025). The migrant's voice and the colonizer's gaze in Romanian 2000s fiction. *Journal of Postcolonial Writing, 61*(4), 567–581. https://doi.org/10.1080/17449855.2025.2529475

Guo, Z., Wang, N., Li, Y., & Liu, Z. (2025). Impact of large-scale water transfer projects on the ecological flow and its value of rivers in the water-receiving area: Case study of the Han River-to-Wei River Water Transfer Project. *Natural Resources Research, 34*(1), 271–298. https://doi.org/10.1007/s11053-024-10441-2

Hu, W., Li, W., Zou, F., Jiang, Y., Xie, Y., & Ubaura, M. (2024). How did COVID-19 pandemic impact the social integration process of poverty alleviation relocation? Insight from four rural communities. *International Journal of Disaster Risk Reduction, 115*, Article 105001. https://doi.org/10.1016/j.ijdrr.2024.105001

Hyland, K. (2005). Stance and engagement: A model of interaction in academic discourse. *Discourse Studies, 7*(2), 173–192. https://doi.org/10.1177/1461445605050365

Jiang, F. K., & Hyland, K. (2018). Nouns and academic interactions: A neglected feature of metadiscourse. *Applied Linguistics, 39*(4), 508–531. https://doi.org/10.1093/applin/amw023

Khamkhien, A. (2025). The art of referencing: Patterns of citation and authorial stance in academic texts written by Thai students and professional writers. *Journal of English for Academic Purposes, 74*, Article 101470. https://doi.org/10.1016/j.jeap.2024.101470

Li, J., & Chen, X. (2018). Ke chixu shengji shiyu xia shengtai yimin gongcheng xiaoguo tanxi—jiyu Shannan 599 fen nonghu wenjuan de shizheng fenxi [An analysis of the effects of the ecological migration project from the perspective of sustainable livelihoods: An empirical study based on 599 household questionnaires in southern Shaanxi]. *Journal of Arid Land Resources and Environment, 32*, 41–48. https://doi.org/10.13448/j.cnki.jalre.2018.363

Li, L., & Qin, F. (2015). Decision-making behavior and influencing factors of ecological migrants in alpine poverty-stricken areas: Evidence from Chongqing. *Guizhou Social Sciences, 301*(1), 163–168. https://doi.org/10.13713/j.cnki.cssci.2015.01.023

Li, Q., Peng, C., Yuan, J., Zhang, Q., Yip, P. S., & Cui, M. (2025). Multidimensional integration measures in rural-to-urban resettlement for ethnic groups: A case study of Yi poverty alleviation resettlement communities in China. *Habitat International, 165*, Article 103527. https://doi.org/10.1016/j.habitatint.2025.103527

Lim, W. M. (2025). What is qualitative research? An overview and guidelines. *Australasian Marketing Journal, 33*(2), 199–229. https://doi.org/10.1177/14413582241264619

Liu, J., Zhou, X., & Hou, X. (2025). Does a migrant relocation program aggravate cropland abandonment? A case study on Pingli County, China. *Land, 14*(3), Article 518. https://doi.org/10.3390/land14030518

Liu, R., & Jiang, J. (2025). The driving factors and improvement paths of CTI integration: Based on the spatial Dubin model and fsQCA method. *SAGE Open, 15*(1), Article 21582440241305163. https://doi.org/10.1177/21582440241305163

Lu, H. (2019a). The need to integrate spontaneous ethnic order into national institutional order: An investigation and study on the social situation of spontaneous Miao migrants in M County. *Sixiang Zhanxian, 45*(5), 103–111.

Lu, H. (2019b). Yidi banqian zifa suijian yimin shehui chujing wenti yanjiu: Jiyu Yunnan S Qu de diaocha [A study on the social situation of spontaneous migrants accompanying relocated households: Based on an investigation in Area S, Yunnan]. *Journal of North Minzu University (Philosophy and Social Sciences Edition)*, (6), 103–109.

Minna, K., Jacobi, J., Korhonen-Kurki, K., Lukkarinen, J. P., Ott, A., Peltomaa, J., & Zaehringer, J. G. (2024). Reflexive use of methods: A framework for navigating different types of knowledge and power in transformative research. *Sustainability Science, 19*, 507–521. https://doi.org/10.1007/s11625-023-01431-z

Mohiuddin, M., & Hossain, M. A. (2023). Determining the impact of Rohingya forced migration on the natural environment of tourism destination in Bangladesh. *GeoJournal of Tourism and Geosites, 50*(4), 1506–1516. https://doi.org/10.30892/gtg.50430-1148

Natter, K., & Welfens, N. (2024). Why has migration research so little impact? Examining knowledge practices in migration policy making and migration studies. *International Migration Review, 58*(4), 1669–1700. https://doi.org/10.1177/01979183241271683

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., & Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ, 372*. https://doi.org/10.1016/j.ijsu.2021.105906

Pappas, I. O., & Woodside, A. G. (2021). Fuzzy-set qualitative comparative analysis (fsQCA): Guidelines for research practice in information systems and marketing. *International Journal of Information Management, 58*, 102310. https://doi.org/10.1016/j.ijinfomgt.2021.102310

Ragin, C. C. (2009). *Redesigning social inquiry: Fuzzy sets and beyond*. University of Chicago Press.

Razzaq, R., Riaz, R., Nasir, T., & Hussain, W. (2025). Public opinion and policy development: A psychological approach to understanding the role of public sentiment in shaping legislation: A case study of law, psychology, media and policy development

nexus. *Annual Methodological Archive Research Review, 3*(5), 296–310. https://doi.org/10.63075/8jz5fk62

Ru, Z., Dongping, L., Jing, L., Meiling, Y., & Xinyu, W. (2022). Ecological migrants' socio-spatial integration in Yinchuan City, China. *PLOS ONE, 17*(10), Article e0275853. https://doi.org/10.1371/journal.pone.0275853

Shi, Q., Liu, T., & Feng, C. (2025). The changing geography of interprovincial migration in China: History and new trends. *Eurasian Geography and Economics, 66*(4–5), 507–529. https://doi.org/10.1080/15387216.2024.2379847

Shi, S. (2021). Spatial production, displacement, and social integration in relocated poverty alleviation communities: Based on fieldwork in Tuanjie Village, Guyuan, Ningxia. *Journal of Hubei University for Nationalities (Philosophy and Social Sciences Edition)*, (1), 98–108. https://doi.org/10.13501/j.cnki.42-1328/c.2021.01.009

Van de Vijver, F. J. R., & Leung, K. (2021). Theoretical background. In V. H. Fetvadjiev, J. He, & J. R. J. Fontaine (Eds.), *Methods and data analysis for cross-cultural research*, 10–28. Cambridge University Press. https://www.researchgate.net/profile/Fons-Van-De-Vijver/publication/235661021_Methods_and_data_analysis_of_comparative_research/links/568dbdb708aeaa1481ae7cf7/Methods-and-data-analysis-of-comparative-research.pdf

Wang, H., Fu, T., & Zhang, W. (2017). Zhongguo yidi fupin banqian zhengce de yanjin tezheng—jiyu zhengce wenben lianghua fenxi [Evolution characteristics of China's relocation policy for poverty alleviation: Based on quantitative analysis of policy texts]. *Journal of Chinese Academy of Governance*, (3), 48–53. https://doi.org/10.14063/j.cnki.1008-9314.2017.03.009

Wang, H., Wu, W., Xiong, L., & Wang, F. (2024). Is there an environment and economy tradeoff for the National Key Ecological Function Area policy in China? *Environmental Impact Assessment Review, 104*, Article 107347. https://doi.org/10.1016/j.eiar.2023.107347

Wang, Y., Liu, Y., & Zhou, L. (2022). Livelihood risks and coping strategy choices of ecological migrants on the northern foothills of the Qilian Mountains: A case study of Wuwei City. *Journal of Natural Resources, 37*(2), 521–537. https://doi.org/10.31497/zrzyxb.20220217

Wei, L. (2022). When the wall is broken: Rural-to-urban migration, perceived inequality, and subjective social status in China. *Research in Social Stratification and Mobility, 82*, Article 100731. https://doi.org/10.1016/j.rssm.2022.100731

Wu, T., Liu, Y., Qi, X., Zhang, Q., Yao, Y., & Wu, J. (2024). The environmental impact assessment of China's ecological migration from a social–ecological perspective. *Ambio, 53*(9), 1355–1366. https://doi.org/10.1007/s13280-024-02011-w

Wu, Y. (2019). *Ecological migration: A different version of "climate migration" in China?* Beijing Representative Office.

Xie, J., Xie, J., & Bui, G. (2024). A diachronic study of authorial stance in the discussion of Chinese MA theses and published research articles. *Journal of English for Academic Purposes, 67*, Article 101320. https://doi.org/10.1016/j.jeap.2023.101320

Xiao, R., & Xu, R. (2020). Yidi fupin banqian zhengce shijian jiqi wanshan [The practice and improvement of the poverty alleviation relocation policy]. *Journal of South-Central University for Nationalities (Humanities and Social Sciences), 40*, 73–77.

Xin, Z., Keqiang, W., Hung, T. K., & Zijun, W. (2021, September). Configuration analysis of determinants of returning home entrepreneurial model based on fsQCA method. In *Proceedings of the 2021 7th International Conference on Education and Technology (ICET)* 24–31, IEEE. https://doi.org/10.1109/ICET53279.2021.9575072

Xu, L., & Yang, L. (2024). Xin shidai xiangcun zhenxing zhong de xiao nonghu duoyuanhua fazhan—yi ge Hexi Zoulang shengtai yimin cun de genan kaocha [Diversified development of smallholder farmers in rural revitalization under the new era: A case study of an ecological migration village in the Hexi Corridor]. *Journal of Northern Nationalities University (Philosophy and Social Sciences Edition)*, (4), 14–22. https://doi.org/10.20076/j.cnki.64-1065/G4.2024.04.002

Xu, M., Feng, Z., Yang, Y., Li, Q., & Ni, S. (2024). Ecological migration and social inclusion of the Yi minority in Southwestern China. *Cities, 153*, Article 105291. https://doi.org/10.1016/j.cities.2024.105291

Zhang, W., Zhou, L., Zhang, Y., & Xiu, C. (2025). Is the resettlement suitability of migrants in arid mountainous areas high or low? A case study of ecological migration in Gansu Province, China. *Humanities and Social Sciences Communications, 12*(1), 1–18. https://doi.org/10.1057/s41599-025-05833-5

Zhang, X. (2017). Guihuaxing shehui bianqian, zhixing yali yu fupin fengxian: Yidi fupin banqian zhengce pingxi [Planned social change, implementation pressure, and poverty alleviation risks: A policy review of relocation-based poverty alleviation]. *Journal of Yunnan Institute of Administration*, (3), 20–25.

Zhao, J. (2020). *Evaluation of the economic and social benefits of spontaneous migration in Ningxia* [Master's thesis, Ningxia University].

Zhao, R., Zhu, W., & Wang, X. (2023). From academic influence to academic discourse power: A four-dimensional evaluation framework for academic journals. *China Science and Technology Journal Studies, 34*(5), 576. https://doi.org/10.11946/cjstp.202303290223

Zheng, Y., Meng, H., Xie, X., & Shi, S. (2017). Dynamics of climate change, drought and migration: A mixed method research in Ningxia. *Chinese Journal of Urban and Environmental Studies, 5*, Article 1750021. https://doi.org/10.1142/S234574811750021X

Zheng, Z. Y. (2022). The development and prospect of research on ecological poverty alleviation in China since the new century: A bibliometric analysis based on CiteSpace. *Journal of Southwest Minzu University (Humanities and Social Sciences)*, (9), 219–231.

Zhou, S., & Chi, G. (2024). How do environmental stressors influence migration? A meta-regression analysis of environmental migration literature. *Demographic Research, 50*, 41–100. https://doi.org/10.4054/DemRes.2024.50.2

Article history: Received: 22.10.2025 Revised: 22.01.2026 Accepted: 08.04.2026 Available online: 25.05.2026