Macrothink Institute™

International Journal of Culture and History
ISSN 2332-5518
2025, Vol. 12, No. 2

How Do Time, Space, and Interest Shape Historical and Geographical Book Borrowing? Exploring the Moderating Effect of Renewal Intention and Gender

Jiexuan Liu (Corresponding author)

Nanjing Normal University

Nanjing, Jiangsu, China

E-mail: 79821434@qq.com

https://orcid.org/0000-0002-7378-6863

Received: October 7, 2025 Accepted: November 2, 2025 Published: November 6, 2025

doi:10.5296/ijch.v12i2.23290 URL: https://doi.org/10.5296/ijch.v12i2.23290

Abstract

This study examined the borrowing patterns of historical and geographical books (category K) at Nanjing Normal University between 2016 and 2024, using a dataset of 46,446 books, 20,463 readers, and 153,303 total borrowings. Data were segmented into three periods (2016–2018, 2019–2021, 2022–2024) to analyze behavioral changes, especially during the COVID-19 pandemic. Principal Component Analysis (PCA) with varimax rotation identified four core factors (time-space-interest: TSI; interest-only: I; space-interest: SI; time-space: TS) across periods, while moderated regression explored their impact on LogTotal (log-transformed total borrowings), with period-specific moderators (Gender for 2016–2018; Renewal for 2019–2021/2022–2024). Results showed dynamic factor evolution: a single TSI factor dominated pre-pandemic (2016–2018); 2019–2021 saw fragmentation into TSI, I, and SI (due to pandemic access constraints); 2022–2024 stabilized into TSI, TS, and I. Structural Equation Modeling (SEM) confirmed moderate-to-strong factor correlations. Gender amplified F1's impact on LogTotal (stronger for females) pre-pandemic, while Renewal weakened this association post-pandemic. Thematic analysis validated high demand for late imperial Chinese history (Ming/Qing) and archaeological research. This study identifies the pandemic as a key turning point, shifting borrowing determinants from demographic traits (Gender) to adaptive preferences (Renewal), offering insights for library resource allocation and service optimization.

Keywords: historical and geographical book, reading behavior, time-space-interest (TSI) factors, COVID-19 pandemic impact, renewal intention, gender, university

1. Introduction

Historical and geographical books serve as critical carriers of spatial-temporal knowledge, connecting past events, regional contexts, and disciplinary insights for readers ranging from students to researchers. Unlike general fiction or popular non-fiction, their borrowing behavior is inherently intertwined with three core dimensions: time (e.g., seasonal academic cycles, historical period focus), space (e.g., preference for core lending rooms vs. specialized libraries like Bio-Geo collections), and interest (e.g., niche themes such as "Qing Dynasty history" or "Yangtze River Basin geography"). Prior research in geography book and library user behavior has highlighted the role of these dimensions in shaping book access and use—for instance, noting how cadastral books, as historical sources, provide stable geographical information that reveals spatial relationships, which in turn influences engagement with historical geography content (Frolov, 2009). Additionally, academic geography's failure to reimagine its imperial-era "global claim" has created a divide between university and popular geography, framing popular geographical works as outdated or trivial and potentially reducing public interest in borrowing such books (Bonnett, 2003). However, most studies treat time, space, and interest as isolated variables or static "couplings," failing to capture their dynamic interactions or how external disruptions might reconfigure these relationships.

The COVID-19 pandemic emerged as a pivotal exogenous shock that disrupted longstanding patterns of library use, particularly for physical materials like historical and geographical books. Pre-pandemic, borrowing decisions for such books were often characterized by stable time-space-interest (TSI) integration: users visited core lending rooms (space) during academic semesters (time) to access materials aligned with their research interests. Demographic factors like Gender further moderated this integration, with surveys of university students (including those in geography and history) showing that gender and reading motivations (52% for pleasure, 28% for learning, 20% out of obligation) jointly influence reading behavior—a pattern extendable to borrowing (Escalante Varona et al., 2023). This aligns with observations of 17th–18th century French princes' education, where curricula centered on history and geography (time-bound needs) and paired books with maps for visual learning, demonstrating how temporal contexts and interests shape demand for related materials (Mormiche, 2012). Post-pandemic, however, physical access constraints (e.g., lockdowns, reduced library hours) decoupled time, space, and interest: some users retained interest-driven preferences but lost spatial-temporal links (forming an "I factor"), while others shifted to specialized libraries with irregular borrowing timelines (forming an "SI factor"). Concurrently, Renewal Intention—a behavioral adaptation to extend loan periods amid access uncertainty—emerged as a new moderator, reducing reliance on initial TSI-bound borrowing. This mirrors how personal interest in specific historical periods and local spaces (e.g., 19th-century Salisbury's focus on Welsh printing history) drives deeper engagement with books and may increase renewal behavior (Tallis, 2022).

This post-pandemic shift exposes critical gaps in existing literature. First, while prior work acknowledges time, space, and interest as drivers of borrowing, few explore how their interactions evolve under disruption or stabilize into a "new normal." For example, studies of 19th-century Antigua show how regional spatial context (Antigua) and religious interest shaped freed enslaved people's engagement with Bibles (containing historical-geographical content), but they do not address how external shocks might alter such space-interest couplings (Sixsmith, 2022). Second, the transition from Gender to Renewal Intention as a key moderator raises unanswered questions: Why does a demographic trait (Gender) lose explanatory power in favor of a contextually adaptive behavior (Renewal Intention)? How do these two moderators differentially shape the TSI-borrowing relationship for historical and geographical books? Third, content-level links between behavioral factors and borrowing preferences remain underexplored—for example, how niche interests (e.g., "Historical Geography" clusters) interact with time and space. Studies note that books tied to specific urban spaces and historical periods (e.g., Garcia's Parque das ruinas on Rio de Janeiro's colonial history) attract readers with relevant interests, but they do not connect this to broader TSI dynamics (Klinger & Ximenes, 2021). To address these gaps, this study focuses on the following research questions:

Q1: How do the coupling and decoupling of time (e.g., seasonal borrowing rhythms), space (e.g., core vs. specialized libraries), and interest (e.g., late imperial vs. modern Chinese history) shape historical and geographical book borrowing across pre-pandemic (2016–2018), pandemic (2019–2021), and post-pandemic (2022–2024) periods, and to what extent does Gender moderate these time-space-interest (TSI) coupling effects in each period?

Q2: In the context of historical and geographical book borrowing, how does Renewal Intention, as a post-pandemic adaptive behavior, reconfigure the relationship between TSI integration and borrowing volume (LogTotal)—specifically, does it weaken TSI's influence by reducing reliance on initial time-space-bound borrowing, and if so, what mechanisms underpin this weakening effect?

Q3: For historical and geographical book borrowing, why does Gender's moderating role on TSI-driven borrowing decline from significant (pre-pandemic: amplifying TSI-LogTotal links for females) to weak/non-significant (post-pandemic), while Renewal Intention emerges as a stable moderator? How do these shifting moderating roles reflect changes in how time, space, and interest interact to shape borrowing decisions?

Q4: How do the correlations between TSI, time-space (TS), and interest-only (I) factors in historical and geographical book borrowing reveal the dynamic interplay of time, space, and interest, and how does Renewal Intention moderate the strength of these correlations compared to Gender?

Q5: For historical and geographical book borrowing, how do subject-specific interests interact with time and space to drive borrowing behavior, and do Renewal Intention and Gender exert differential moderating effects on this interest-time-space interaction?

This study investigates the dynamic interplay of time, space, and interest in historical and

geographical book borrowing, with a focus on the moderating roles of Renewal Intention and Gender. This study adopts a mixed-methods approach covering the 2016–2024 period, which is divided into pre-pandemic, pandemic, and post-pandemic phases. It focuses on addressing three core research objectives:

a) Trace the evolution of TSI coupling/decoupling across periods and identify key indicators of each dimension (e.g., seasonal time patterns, library space types, interest clusters);

b) Examine how Gender and Renewal Intention moderate the TSI-borrowing volume relationship, and why their salience shifts over time;

c) Validate behavioral factor shifts with content-level data (e.g., subject word clusters, Voyant thematic zones) to ensure alignment between "how" users borrow and "what" they borrow.

Theoretically, it advances understanding of dynamic TSI interactions and moderator role shifts, challenging static frameworks for library user behavior. For example, it builds on work showing how spatial scope and temporal range (e.g., Smout et al.'s focus on Scotland's woodlands, 1500–1920) define historical geographical book content, but extends this to explore how TSI interactions change post-disruption (Smout et al., 2007).

Methodologically, it integrates structural equation modeling (SEM) of behavioral factors with thematic content analysis, offering a holistic approach to linking borrowing patterns to content preferences—such as how Catesby's 18th-century work on the American Southeast (spatial focus) and colonial natural history (interest) shaped its circulation (Nelson, 2023).

Practically, it provides libraries with actionable insights—for example, optimizing collection allocation for specialized spaces (e.g., Bio-Geo Library) or designing outreach for interest-driven borrowers—to adapt services for post-pandemic "new normal" borrowing. For example, it draws on lessons from 1870s Vologda, where students' reading locations (space) and self-education interests influenced book access, to inform current space-allocation strategies (Safronova, 2025).

By unpacking how time, space, and interest shape historical and geographical book borrowing, this research ultimately contributes to more resilient, user-centered library practices for knowledge dissemination in disrupted contexts. It also addresses gaps in literature on educational curricula: for example, studies of 1870–1900 Russian schools show how institutional spaces and time-bound curricula shaped students' exposure to historical-geographical texts, and this study extends this to explore post-pandemic curricular impacts on borrowing (Belentsov et al., 2021).

2. Previous Research

Historical and geographical book borrowing is a dynamic behavior shaped by the interplay of time, space, and interest—three interconnected dimensions that prior research has explored through diverse contextual lenses.

2.1 Time: Historical Periods, Curricula, and Temporal Shifts in Demand

Time exerts a multifaceted influence on historical and geographical book borrowing, manifesting in historical period focus, curricular timelines, and generational changes in interest. Studies across different eras highlight how temporal contexts shape both the production of such books and user demand for them.

Historical period specificity is a key driver of borrowing, as books tied to distinct timeframes align with readers' research or learning needs. For example, Fitzpatrick's (2024) analysis of Mapping Partition—a book centered on the 1947 India-Pakistan partition—notes that its status as required reading for geography and colonial history students stems from its focus on a pivotal historical event, directly driving demand for the text. Similarly, in the 1860s–1870s, Russian high school students sought Friedrich Christoph Schlosser's historical works (e.g., A World History) for self-education, as the books aligned with the era's intellectual trends emphasizing world and Russian history (Podosokorsky, 2023).

Temporal shifts in educational curricula further reshape borrowing patterns across generations. Risopatrón et al. (2023) analyzed Chilean pedagogy students' reading autobiographies and found that childhood exposure to historical-geographical content (via traditional children's literature) was twice as common among older cohorts compared to recent generations. Recent students reported fewer children's historical-geographical stories but more engagement with canonical adult historical texts, indicating that curricular changes over time alter how readers interact with historical and geographical books—with implications for their borrowing choices later in life. This suggests that time-bound curricular requirements (e.g., semester-specific coursework) and long-term academic goals jointly shape temporal patterns of borrowing.

2.2 Space: Physical Access, Regional Contexts, and Institutional Proximity

Space influences historical and geographical book borrowing through physical access to collections, regional cultural norms, and institutional settings. Studies consistently link spatial factors to how readers locate, access, and engage with relevant texts.

Institutional spatial proximity is a critical predictor of borrowing, as proximity reduces barriers to accessing specialized collections. Ardila (2022) documented that in 1870–1874, students from Colombia's National University frequently used books from Bogotá's National Library—located near the university—for history and geography coursework. This spatial overlap between educational institutions and libraries directly drove book use, which likely translated to borrowing. In the 16th century, Transylvanian Saxons and Hungarians were the primary owners of Protestant reformers' works (e.g., Martin Luther's texts) held in the University Library of Cluj-Napoca, as their spatial proximity to the library (in the Carpathian Basin) facilitated access to religious-historical content tied to the Reformation (Ösz, 2023). Spatial access also varies by collection type: Pitulko (2022) noted that in early modern Europe, private libraries (e.g., the Fairfax family's collection) served as spatial markers of elite access to historical and political books, while public collections enabled broader access—creating spatial disparities in who could borrow or acquire such texts.

Regional spatial contexts further shape borrowing preferences by aligning with local interests and cultural norms. Dvortsova (2021) found that in 19th-century Tyumen (a Siberian town), Konstantin Vysotsky's printing house produced road books and historical reports tailored to local needs (e.g., Siberian regional development). These texts circulated within the town's intellectual and administrative circles, as their focus on local geography and history matched regional interests—highlighting how spatial specificity drives both book production and local borrowing. Regional language norms also play a role: a 2016–2020 study of Dutch-speaking regions (Netherlands, Flanders, Suriname) found that readers predominantly borrowed historical and geographical books in Dutch, though Suriname's higher use of English in cultural domains created regional variations in language preferences (Bornman et al., 2025). Even in colonial contexts, spatial regionality matters: Sobolievskyi and Sobolievska (2022) observed that 17th-century Puritan thinkers in New England engaged with Platonic cosmological texts to develop region-specific ideas about faith and the cosmos, with their regional intellectual trends (Puritanism) shaping which historical-philosophical books they accessed.

2.3 Interest: Thematic Preferences, Academic Goals, and Demographic Variations

Interest serves as the linchpin connecting time and space to borrowing behavior, with thematic preferences, academic needs, and demographic traits (e.g., gender) influencing which historical and geographical books readers seek.

Thematic interest drives engagement with specialized content, often aligning with time and space to create targeted demand. Crang (2003) analyzed Jane Austen's works and found that the "imagined geographies" in her texts—reflecting a vanished 19th-century English society—attract contemporary readers interested in the historical and geographical context of Austen's world. This interest translates to engagement with related historical geographical content, including borrowing books that explore those spatial and temporal themes. Thematic interest also shapes institutional demand: Stafford (2016) noted that the 1909 ten-volume series Journeys through Bookland (which includes history and travelogues) was designed for children's reading across developmental stages, with its focus on age-appropriate historical-geographical content reflecting interest in nurturing childhood engagement with these topics. For academic readers, interest tied to coursework or research is particularly influential: Kaya and Günal (2022) found that Turkish history students with strong academic interest in career preparation were more likely to borrow supplementary historical methodology books, while those with low interest in non-required content avoided such borrowing.

Despite robust research on time, space, and interest in historical and geographical book borrowing, three critical gaps remain. First, most studies focus on static or pre-disruption contexts and fail to explore how external shocks reconfigure the interplay of time, space, and interest. For example, while Bornman et al. (2025) document regional language preferences in borrowing, they do not address how disruptions to physical access (e.g., lockdowns) might alter these spatial-interest dynamics. Second, the moderating role of renewal intention—an adaptive behavior to extend loan periods amid access uncertainty—has been largely

overlooked. Prior work emphasizes gender and academic interest as moderators but does not explore how renewal intention might reshape the relationship between time-space-interest (TSI) integration and borrowing volume. Third, few studies integrate content-level analysis (e.g., thematic focus of books) with behavioral data (e.g., borrowing frequency) to validate how "what" readers borrow aligns with "how" (time/space) they borrow.

3. Data and Method

3.1 Sample

The research sample for this study is derived from the circulation data of historical and geographical books (classified under the K category) in the library of Nanjing Normal University, covering an 8-year observation period from 2016 to 2024. The sample includes three core dimensions. First, the book inventory dimension: a total of 46,446 historical and geographical books (K category) were included as the research objects, representing the main carrier of the study. Second, the reader dimension: the data involves 20,463 unique readers who borrowed the aforementioned K-category books, reflecting the user group involved in the book circulation process. Third, the circulation frequency dimension: the total number of borrowings for these K-category books during the study period reached 153,303, which provides a quantitative basis for analyzing the utilization efficiency of historical and geographical resources.

3.2 Research Process

This research design (see Figure 1) focuses on analyzing book borrowing data spanning from 2016 to 2024. It first segments the data into three periods: 2016 - 2018, 2019 - 2021, and 2022 - 2024. The dataset encompasses variables like Reader ID, Gender, Renewal, Reader Type, Time (monthly borrowing volumes from Jan. to Dec.), Space(storage location details such as Suiyuan Location, Xianlin Location), Interest (borrowing quantities for different book categories K0 - K9), and Total Borrowing Volume.

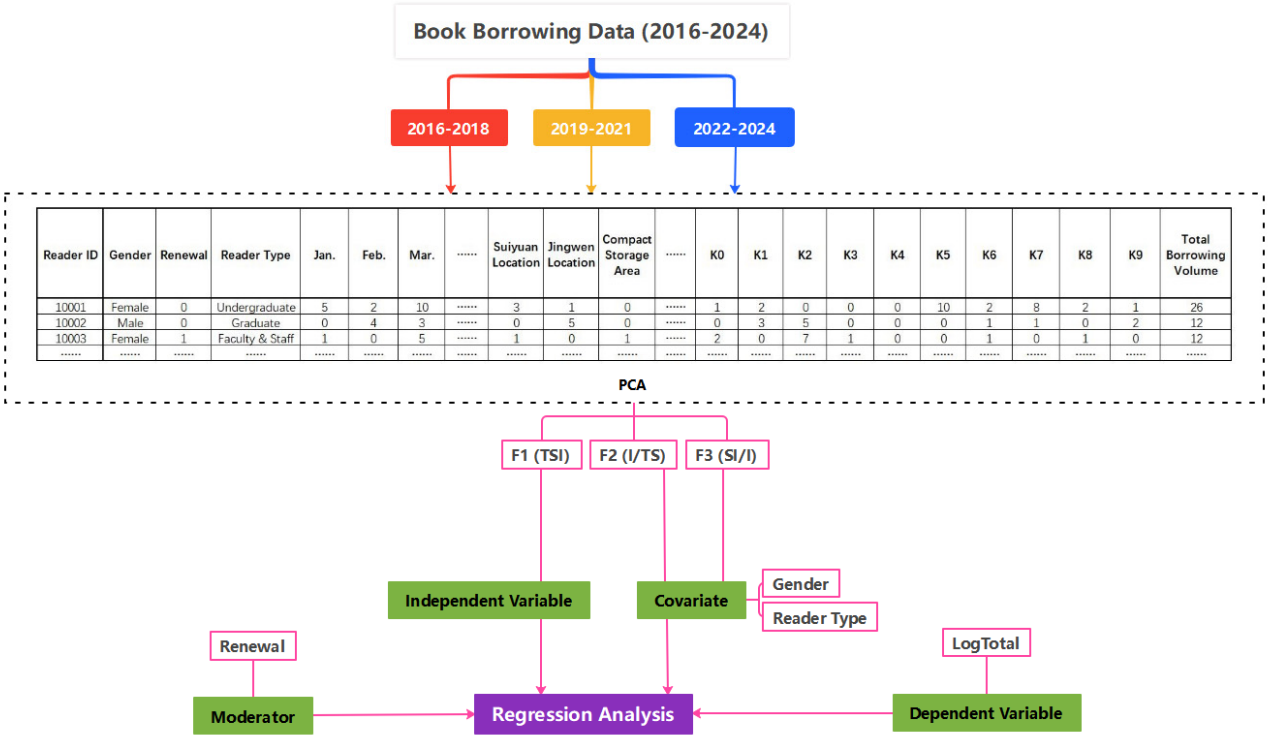

Figure 1. Research design

Principal Component Analysis (PCA) is employed to extract three dimension (time, space, interest) common factors: F1 (TSI), F2 (I/TS), and F3 (SI/I). The factor rotation method used is the maximum variance method. The maximum variance method, also known as varimax rotation, aims to maximize the variance of factor loadings within each factor, which effectively simplifies the factor structure. It enhances the interpretability of factors: variables tend to have high loadings on one factor and low loadings on others, creating a clearer distinction between factors.

Moderated regression analyses were conducted across the 2016–2018, 2019–2021, and 2022–2024 periods using IBM SPSS Statistics, with LogTotal as the dependent variable in all models. Consistent analytical procedures were applied across periods: interaction terms were created via centering of focal predictors and moderators followed by product calculation; hierarchical linear regression was implemented with main effects entered in Step 1 and interaction terms added in Step 2 to test incremental variance explained; model fit metrics (R^2, MSE, F-test) and term statistics (coefficients, SE, t-values, p-values, 95% CIs) were extracted; post-hoc analyses using marginal means computed conditional effects of the focal predictor at key levels of the moderator. Period-specific parameters were as follows:

2016–2018: Focal predictor = F1; moderator = Gender; covariates = Renewal, Reader Type; interaction term = F1×Gender; conditional effects of F1 estimated at Gender levels (1 = male, 2 = female).

2019–2021/2022–2024: Focal predictor = F1; moderator = Renewal; covariates = F2, F3, Gender, Reader Type; interaction term = F1×Renewal; conditional effects of F1 estimated at Renewal levels (0, 1).

Figure 2 depicts the total circulation of books across different sub - categories (K0 - K9) within category K. The total circulation starts at a relatively low level for K0 and shows a moderate increase in K1. This indicates a gradual growth in the demand for books in these initial sub - categories of category K. There is a sharp spike in total circulation at K2. This suggests that books in the K2 sub - category are highly popular among borrowers, possibly due to factors such as relevant current events, academic research trends, or general reader interest in the specific content of K2 books. The total circulation drops drastically at K3 and remains at a relatively low and stable level from K3 to K7. This implies that the sub - categories from K3 to K7 have much lower demand compared to K2. The reasons could include niche subject matter, lack of promotion, or limited relevance to the majority of readers' interests at the time of data collection. K8 experiences another dramatic surge in total circulation, even higher than that of K2. Similar to K2, this could be attributed to unique factors driving the popularity of K8 books, such as a newly released influential work in this sub - category, or a sudden surge in public interest related to the themes covered in K8. There is a significant decline in total circulation at K9, although it remains at a level higher than most of the sub - categories from K3 to K7.

Figure 2. Lending distribution of category K books (2016-2024)

This overview outlines the core scope of the K0-K9 classification system, which centers on history, geography, biography, archaeology, and customs with a structured, discipline-specific framework:

K0: Historiography Theory

As the theoretical foundation of historical studies, K0 covers core components of historiographical methodology and development. Key subcategories include the philosophical basis of history (K01), social development theories (K02), specialized historical treatises (K03), chronology (K04), historical source studies (K05), historical research methods/writing/learning (K06), and the global, Chinese, and national histories of historiography (K09).

K1: World History

K1 systematically documents global history, organized by both thematic and chronological divisions. It includes general world history (K10, covering revolution, culture, events, and popular materials) and period-specific histories: prehistoric times (K11), ancient history (K12, e.g., ancient Greece/Rome), medieval history (K13, e.g., Byzantine/Arab Empires), modern history (K14, 1640–1917, including WWI), contemporary history (K15, post-1917, including WWII), and ethnic history/annals (K18).

K2: Chinese History

Focused exclusively on China's historical trajectory, K2 combines thematic general history (K20, mirroring K10's structure) and era-specific divisions: primitive society (K21), slave society (K22, Xia–Spring and Autumn), feudal society (K23–K24, Warring States–early Qing), semi-colonial/semi-feudal society (K25, 1840–1949, e.g., Opium Wars, Xinhai Revolution), the new democratic revolution (K26, 1919–1949), and the People's Republic of China (K27, post-1949). It also includes ethnic history (K28) and local history/gazetteers (K29).

K3/7: Regional & National Histories (Global)

This cluster categorizes history by world regions, each following a consistent structure of general history (ancient/medieval/modern/contemporary) and sub-regional/national breakdowns:

K3 (Asia): East (e.g., Japan), Southeast (e.g., Vietnam), South (e.g., India), Central (e.g., Kazakhstan), and West Asia (e.g., Iran).

K4 (Africa): North (e.g., Egypt), East (e.g., Ethiopia), West (e.g., Nigeria), Central (e.g., Congo), and South Africa (e.g., South Africa).

K5 (Europe): Eastern/Central (e.g., Russia), Northern (e.g., Sweden), Southern (e.g., Italy), and Western Europe (e.g., UK/France).

K6 (Oceania): Australia, New Zealand, Papua New Guinea, and other Pacific island nations.

K7 (Americas): North (Canada/US), Latin America (e.g., Mexico), West Indies (e.g., Cuba),

and South America (e.g., Brazil).

K8: Biographies, Archaeology, & Customs

Biographies (K81–K83): World/Chinese biographies (K81–K82, organized by time/region/discipline) and regional biographies (K833/837, Asia–Americas), plus reference tools (e.g., biographical dictionaries).

Archaeology (K85–K86): Archaeological methods (K854), world archaeology (K86), Chinese archaeology (K87, by dynasty/region/artifacts), and regional archaeology (K883/887).

Customs (K89): Folklore (K890), world/Chinese customs (K891–K892), and regional customs (K893/897, Asia–Americas).

K9: Geography:

Theoretical Geography (K90): Methodologies, schools, and the history of geography.

Regional Geography: World geography (K91, e.g., political divisions, scenic spots) and Chinese geography (K92, regional/gazetteer-focused).

Specialized Geography: Regional geographies (K93/97, mirroring K3/7's regional structure) and maps (K99, world/Chinese/regional maps).

4. Results

4.1 The Extracted Factors

The evolution of common factor types in historical book borrowing from 2016 to 2024 reflects the dynamic adjustment of users' borrowing behavior in response to external contextual changes (e.g., the COVID-19 pandemic) and internal demand shifts, with the TSI factor remaining dominant while specialized factors (I, SI, TS) emerge in specific periods to capture segmented behavioral patterns (see Table 1).

4.1.1 2016–2018: Dominance of the Integrated TSI Factor

In the pre-pandemic stable period, historical book borrowing behavior was characterized by unified time-space-interest coupling, making the TSI factor the sole common factor:

Time dimension: The factor includes multiple months (December, September, April, etc.) with high loadings (≥0.608), indicating users had regular, seasonally consistent borrowing rhythms for historical books (e.g., peak borrowing in academic semesters).

Space dimension: Two core lending rooms (Jingwen Chinese Book Lending Room, Suiyuan Chinese Book Lending Room) show strong loadings (0.791, 0.563), reflecting concentrated user preferences for physical borrowing spaces, with no scattered spatial choices.

Interest dimension: The inclusion of classification codes (K2, K8) (loadings 0.844, 0.746) links spatial-time behavior directly to historical book interest categories, forming an integrated TSI mechanism where time, space, and interest mutually drive borrowing

decisions without segmentation.

4.1.2 2019–2021: Emergence of TSI, I, and SI Factors

This period (covering the early pandemic) saw behavioral fragmentation, leading to the decomposition of the single TSI factor into three specialized factors:

Persistence of TSI: The TSI factor retains key time (September, December), space (Jingwen, Suiyuan), and interest (K2, K8) indicators (loadings ≥0.518), suggesting a core group of users still maintained integrated borrowing behavior.

Independent I factor: The I factor (K5, K1, K7; loadings ≥0.543) separates interest from time and space. This reflects pandemic-induced physical access constraints—some users could not visit libraries (losing spatial-temporal links) but still held stable historical book interest preferences, making interest a standalone behavioral driver.

SI factor combination: The SI factor (Bio-Geo Library, Mathematics, Physics and Chemistry Library, K9; loadings ≥0.646) couples space and interest while excluding time. It indicates a niche user group shifted to specialized libraries (e.g., Bio-Geo Library for historical geography books) but had irregular borrowing timelines due to pandemic disruptions, leading to time decoupling.

4.1.3 2022–2024: TSI, TS, and I as Stabilized Factor Types

In the post-pandemic recovery period, user behavior stabilized into three segmented yet clear patterns, with the TS factor replacing SI:

Refined TSI factor: The TSI factor focuses on the Jingwen Lending Room (loading 0.814) and spring-summer months (March–June, loadings ≥0.548) paired with core interests (K2, K8). This shows a return to integrated behavior but with more concentrated time-space choices (e.g., preference for Jingwen over Suiyuan) post-pandemic.

TS factor emergence: The TS factor (Suiyuan Lending Room, July, October; loadings ≥0.505) combines time and space while excluding interest. It implies users choosing Suiyuan developed regular borrowing timelines (e.g., summer/winter breaks) but had flexible historical book interests (no fixed K codes), reflecting post-pandemic "habitual spatial-temporal visits" decoupled from specific interests.

Stable I factor: The I factor (K1, K4, K5; loadings ≥0.784) persists with higher loadings than in 2019–2021. This confirms that post-pandemic, a subset of users maintains interest-driven borrowing (e.g., fixed preferences for K1/K4 historical subcategories) regardless of time or space, solidifying interest as an independent behavioral dimension.

Table 1. Factor classification (2016-2024)

Period	Factor	Factor Type
2016-2018	Factor 1 K2 (0.844), Jingwen Chinese Book Lending Room (0.791), K8 (0.746), December (0.724), September (0.720), April (0.698), November (0.691), March (0.686), May (0.670), October (0.642), June (0.637), January (0.608), Suiyuan Chinese Book Lending Room (0.563)	TSI
2019-2021	Factor 1 K8 (0.792), K2 (0.695), September (0.690), Suiyuan Chinese Book Lending Room (0.682), December (0.680), April (0.659), Jingwen Chinese Book Lending Room (0.565), November (0.534), October (0.518)	TSI
	Factor 2 K5 (0.744), K1 (0.655), K7 (0.543)	I
	Factor 3 Bio-Geo Library (0.780), Mathematics, Physics and Chemistry Library (0.672), K9 (0.646)	SI
2022-2024	Factor 1 Jingwen Chinese Book Lending Room (0.814), June (0.724), April (0.708), March (0.694), May (0.660), K8 (0.599), K2 (0.563), February (0.548)	TSI
	Factor 2 Suiyuan Chinese Book Lending Room (0.779), July (0.636), October (0.505)	TS
	Factor 3 K1 (0.833), K4 (0.784), K5 (0.585)	I

4.2 The Relationships between Factors

Figure 3 displays the maximum likelihood estimation results of a structural equation model (SEM) using data from 2019 to 2021. F1 shows a moderate positive correlation with both F2 (correlation coefficient = 0.421) and F3 (correlation coefficient = 0.418), while F2 and F3 exhibit a weak positive correlation (correlation coefficient = 0.167). Among the three factors, F1 has the largest variance (Estimate = 14.501), followed by F3 (Estimate = 2.724), and F2 has the smallest variance (Estimate = 0.059), which may restrict F2's explanatory power in the model.

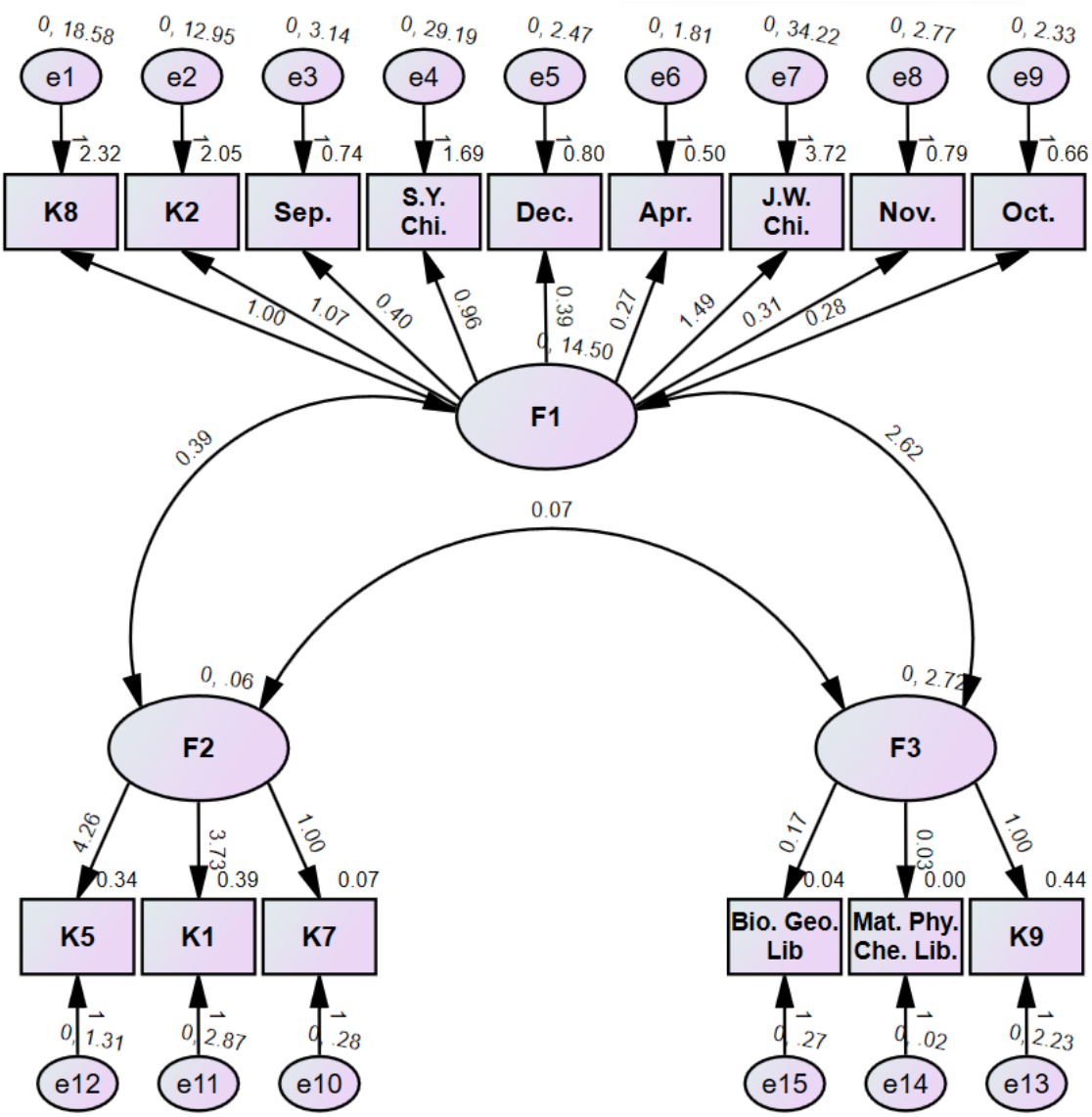

Figure 3. Structural equation model (2019-2021)

For F1: "Jingwen Chinese Book Lending Room" is the most influential indicator. It has the highest unstandardized regression weight (Estimate = 1.492) and a relatively high standardized regression weight (Estimate = 0.697). In contrast, "April" is the weakest indicator for F1, with the lowest unstandardized regression weight (Estimate = 0.272).

For F2: "K5" is the most impactful indicator, showing the highest standardized regression weight (Estimate = 0.671) and a large unstandardized regression weight (Estimate = 4.262). "K7" is the weakest indicator for F2, with the lowest standardized regression weight (Estimate = 0.415).

For F3: "K9" is the most influential indicator, having the highest standardized regression weight (Estimate = 0.742). "Science, Mathematics, and Chemistry Library" is the weakest indicator for F3, with the lowest standardized regression weight (Estimate = 0.361) and

unstandardized regression weight (Estimate = 0.030).

Residual Variances: "Jingwen Chinese Book Lending Room" (e7, Estimate = 34.221) and "Suiyuan Chinese Book Lending Room" (e4, Estimate = 29.193) have the highest residual variances, indicating that F1 explains less of their variance.

Squared Multiple Correlations (SMC): "Science, Mathematics, and Chemistry Library" has the lowest SMC (Estimate = 0.130), followed by "K7" (Estimate = 0.172) and "Bio-Geo Library" (Estimate = 0.222). Low SMC values mean these indicators have weak relationships with their corresponding factors.

All regression weights, covariances, and variances in the model are statistically significant at the *** level ($p < 0.001$), except for the intercept of "Science, Mathematics, and Chemistry Library," which is significant at the 0.05 level ($p = 0.015$).

Figure 4 displays the maximum likelihood estimation results of a structural equation model (SEM) using data from 2022 to 2024. F1 and F2 exhibit a strong positive correlation (correlation coefficient = 0.687), while F3 shows moderate positive correlations with F1 (correlation coefficient = 0.318) and F2 (correlation coefficient = 0.413) respectively. Among the three factors, F1 has the largest variance (Estimate = 30.832), followed by F2 (Estimate = 1.218), and F3 has the smallest variance (Estimate = 0.499), which may limit F3's ability to explain variability in the model.

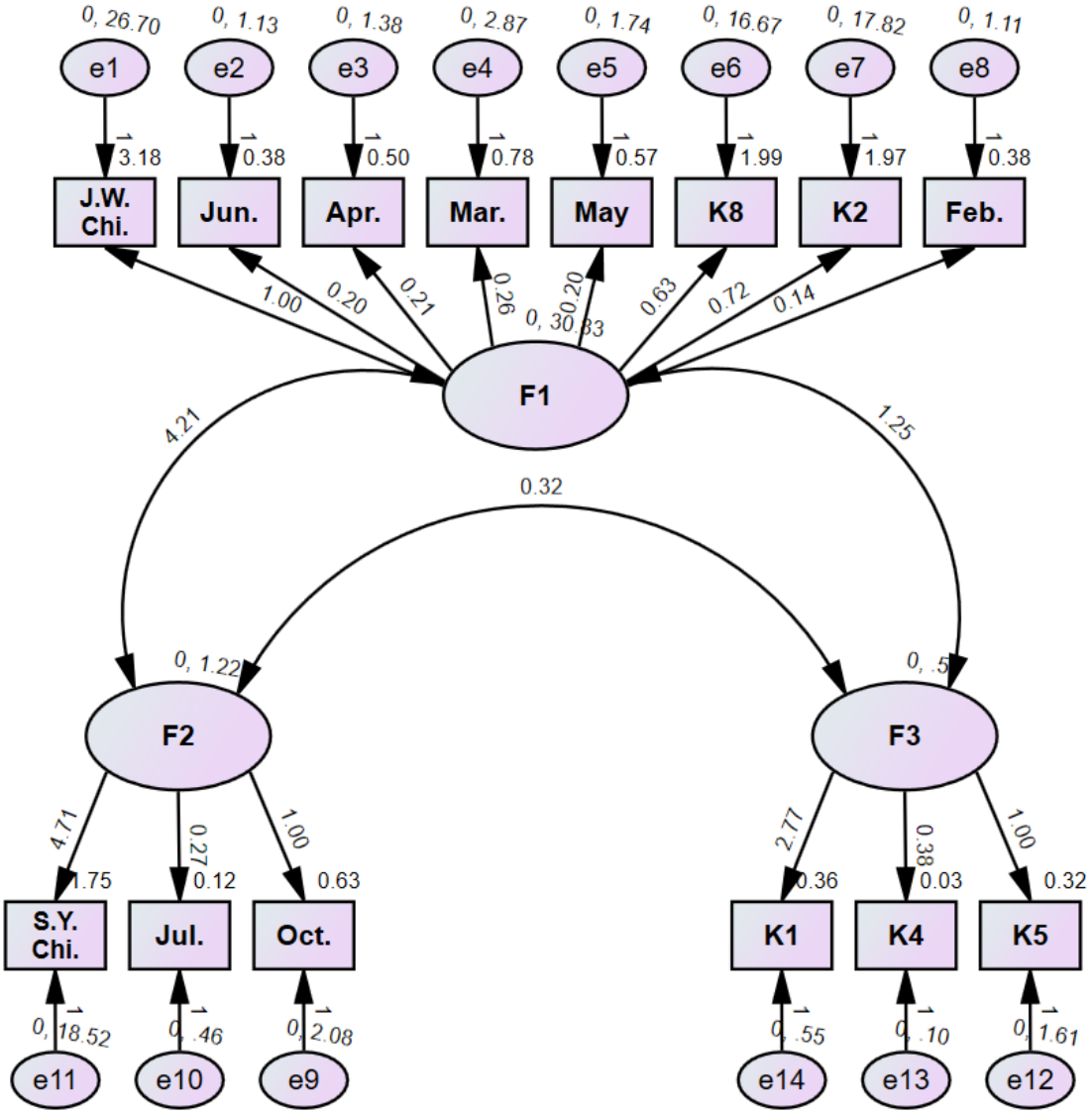

Figure 4. Structural equation model (2022-2024)

For F1: "Jingwen Chinese Book Lending Room" is the most influential indicator. It serves as the reference indicator (unstandardized regression weight = 1.000) and has the highest standardized regression weight (Estimate = 0.732). "February" is the weakest indicator for F1, with the lowest standardized regression weight (Estimate = 0.603) and unstandardized regression weight (Estimate = 0.144).

For F2: "Suiyuan Chinese Book Lending Room" is the most impactful indicator. It has the highest unstandardized regression weight (Estimate = 4.712) and standardized regression weight (Estimate = 0.770). "July" is the weakest indicator for F2, with the lowest standardized regression weight (Estimate = 0.399) and unstandardized regression weight (Estimate = 0.267).

For F3: "K1" is the most influential indicator, showing the highest standardized regression weight (Estimate = 0.935) and a large unstandardized regression weight (Estimate = 2.765). "K5" is the weakest indicator for F3, with the lowest standardized regression weight (Estimate = 0.486) and serving as the reference indicator (unstandardized regression weight = 1.000).

Residual Variances: "Suiyuan Chinese Book Lending Room" (e11, Estimate = 18.522) and "Jingwen Chinese Book Lending Room" (e1, Estimate = 26.701) have the highest residual variances, indicating that their corresponding factors (F2 and F1) explain a relatively small proportion of their variance.

Squared Multiple Correlations (SMC): "July" has the lowest SMC (Estimate = 0.160), followed by "K5" (Estimate = 0.236) and "October" (Estimate = 0.370). Low SMC values suggest weak relationships between these indicators and their respective factors.

All regression weights, covariances, and variances in the model are statistically significant at the *** level ($p < 0.001$), confirming the robustness of the estimated relationships between factors and their indicators.

4.3 The Moderated Regression Results

4.3.1 2016-2018

4.3.1.1 Model Fit and Overall Significance

The model explains a large proportion of variance in LogTotal, with an R-squared of 0.5211 ($R = 0.7218$) and a mean squared error (MSE) of 0.1056. This indicates that 52.11% of the variability in LogTotal is accounted for by the predictors (F1, Gender, Renewal, Reader Type) and the interaction term (F1 × Gender) included in the model. The overall model is statistically significant ($F = 2450.1212$, $df1 = 5$, $df2 = 11260$, $p < 0.001$), confirming that the set of predictors collectively explains a significant amount of variance in the outcome variable LogTotal. Table 2 presents the regression coefficients.

4.3.1.2 Main Effects and Covariates

All predictors and covariates exhibit statistically significant relationships with LogTotal ($p < 0.05$), with no non-significant effects observed:

Focal predictor (F1): Exhibits a negative main effect on LogTotal ($b = -0.0530$, $SE = 0.0093$, $t = -5.6737$, $p < 0.001$, 95% CI [-0.0714, -0.0347]). This indicates that, on average, higher values of F1 are associated with lower LogTotal, after controlling for other variables.

Moderator (Gender): Shows a negative main effect on LogTotal ($b = -0.0249$, $SE = 0.0074$, $t = -3.3595$, $p = 0.0008$, 95% CI [-0.0395, -0.0104]). This suggests that Gender is independently associated with lower LogTotal.

Covariates:

Renewal has the strongest positive effect ($b = 0.1439$, $SE = 0.0064$, $t = 22.5131$, $p < 0.001$, 95% CI [0.1314, 0.1564]).

Reader Type exhibits a smaller but significant positive effect (b = 0.0134, SE = 0.0055, t = 2.4106, p = 0.0159, 95% CI [0.0025, 0.0242]).

Table 2. Regression coefficient (2016-2018)

	coeff	se	t	p	LLCI	ULCI
Constant	0.5057	0.0165	30.5595	0.0000	0.4733	0.5381
F1	-0.0530	0.0093	-5.6737	0.0000	-0.0714	-0.0347
Gender	-0.0249	0.0074	-3.3595	0.0008	-0.0395	-0.0104
Int_1 (F1 × Gender)	0.2453	0.0063	39.1448	0.0000	0.2330	0.2576
Renewal	0.1439	0.0064	22.5131	0.0000	0.1314	0.1564
Reader Type	0.0134	0.0055	2.4106	0.0159	0.0025	0.0242

4.3.1.3 Moderation Effect (Interaction)

The interaction term between F1 and Gender (Int_1) is statistically significant and positive (b = 0.2453, SE = 0.0063, t = 39.1448, p < 0.001, 95% CI [0.2330, 0.2576]). This indicates that Gender moderates the relationship between F1 and LogTotal. The addition of the interaction term explains a significant increment in variance (R^2 = 0.0652, F = 1532.3115, df1 = 1, df2 = 11260, p < 0.001), confirming the practical significance of the moderation effect.

4.3.1.4 Conditional Effects of F1 at Different Levels of Gender

To clarify the nature of the moderation, conditional effects of F1 on LogTotal were estimated at two values of Gender (1 male and 2 female):

Gender = 1 (male): The effect of F1 is positive and significant (b = 0.1922, SE = 0.0040, t = 47.7364, p < 0.001, 95% CI [0.1843, 0.2001]).

Gender = 2 (female): The effect of F1 remains positive but is substantially stronger (b = 0.4375, SE = 0.0049, t = 90.1110, p < 0.001, 95% CI [0.4280, 0.4470]).

This pattern confirms that Gender strengthens the relationship between F1 and LogTotal: as Gender changed from 1 (male) to 2 (female), the positive impact of F on LogTotal becomes more pronounced.

4.3.1.5 Summary and Implications

F1, Gender, and all covariates (Renewal, Reader) significantly predict LogTotal, with Renewal exerting the strongest positive influence. The relationship between F1 and LogTotal is moderated by Gender, such that higher levels of Gender (female) amplify the positive association between F1 and LogTotal. The moderation effect is both statistically and practically significant, contributing 6.52% additional variance explained in LogTotal. These results suggest that the effect of F1 on LogTotal is context-dependent, with Gender acting as a critical boundary condition.

4.3.2 2019-2021

4.3.2.1 Model Fit and Overall Significance

The model explains a substantial proportion of variance in LogTotal, with an R-squared of 0.5349 (R = 0.7314) and a mean squared error (MSE) of 0.0955. This indicates that 53.49% of the variability in LogTotal is accounted for by the predictors (F1, Renewal, F2, F3, Gender, Reader Type) and the interaction term (F1 × Renewal) included in the model. The overall model is statistically significant ($F = 1214.6911$, $df1 = 7$, $df2 = 7393$, $p < 0.001$), confirming that the set of predictors collectively explains a significant amount of variance in the outcome variable LogTotal. Table 3 presents the regression coefficients.

4.3.2.2 Main Effects and Covariates

Among the predictors and covariates, most exhibit statistically significant relationships with LogTotal ($p < 0.05$), except for two non-significant effects:

Focal predictor (F1): Exhibits a strong positive main effect on LogTotal ($b = 0.4832$, $SE = 0.0087$, $t = 55.3793$, $p < 0.001$, 95% CI [0.4661, 0.5003]). This indicates that, on average, higher values of F1 are associated with higher LogTotal, after controlling for other variables.

Moderator (Renewal): Shows a positive main effect on LogTotal ($b = 0.1259$, $SE = 0.0079$, $t = 15.9056$, $p < 0.001$, 95% CI [0.1104, 0.1414]). This suggests that greater renewal is independently associated with higher LogTotal.

Covariates:

F2 has the strongest positive effect among covariates ($b = 0.0854$, $SE = 0.0036$, $t = 23.4077$, $p < 0.001$, 95% CI [0.0783, 0.0926]).

F3 exhibits a smaller but significant positive effect ($b = 0.0218$, $SE = 0.0036$, $t = 6.0683$, $p < 0.001$, 95% CI [0.0148, 0.0289]).

Gender ($b = -0.0151$, $SE = 0.0084$, $t = -1.7938$, $p = 0.0729$) and Reader Type ($b = -0.0027$, $SE = 0.0064$, $t = -0.4153$, $p = 0.6779$) do not show statistically significant effects on LogTotal.

Table 3. Regression coefficient (2019-2021)

	coeff	se	t	p	LLCI	ULCI
constant	0.4959	0.0189	26.1886	0.0000	0.4588	0.5330
F1	0.4832	0.0087	55.3793	0.0000	0.4661	0.5003
Renewal	0.1259	0.0079	15.9056	0.0000	0.1104	0.1414
Int_1 (F1 × Renewal)	-0.2545	0.0097	-26.3535	0.0000	-0.2734	-0.2355
F2	0.0854	0.0036	23.4077	0.0000	0.0783	0.0926
F3	0.0218	0.0036	6.0683	0.0000	0.0148	0.0289
Gender	-0.0151	0.0084	-1.7938	0.0729	-0.0316	0.0014
Reader Type	-0.0027	0.0064	-0.4153	0.6779	-0.0152	0.0099

4.3.2.3 Moderation Effect (Interaction)

The interaction term between F1 and Renewal (Int_1) is statistically significant and negative ($b = -0.2545$, $SE = 0.0097$, $t = -26.3535$, $p < 0.001$, 95% CI [-0.2734, -0.2355]). This indicates that renewal moderates the relationship between F1 and LogTotal.

The addition of the interaction term explains a significant increment in variance ($R^2 = 0.0437$, $F = 694.5045$, $df1 = 1$, $df2 = 7393$, $p < 0.001$), confirming the practical significance of the moderation effect.

4.3.2.4 Conditional Effects of F1 at Different Levels of renewal

To clarify the nature of the moderation, conditional effects of F1 on LogTotal were estimated at two values of renewal (0.0000 and 1.0000):

Renewal = 0: The effect of F1 is positive and strong ($b = 0.4832$, $SE = 0.0087$, $t = 55.3793$, $p < 0.001$, 95% CI [0.4661, 0.5003]).

Renewal = 1: The effect of F1 remains positive but is substantially weaker ($b = 0.2287$, $SE = 0.0041$, $t = 55.7405$, $p < 0.001$, 95% CI [0.2207, 0.2368]).

This pattern confirms that Renewal intention weakens the positive relationship between F1 and LogTotal: as renewal intention increases, the positive impact of F1 on LogTotal diminishes.

4.3.2.5 Summary and Implications

F1, renewal, F2, and F3 significantly predict LogTotal, with F1 exerting the strongest positive influence. In contrast, Gender and Reader Type do not exhibit significant effects. The relationship between F1 and LogTotal is moderated by renewal, such that higher levels of Renewal reduce the strength of this positive association. The moderation effect is both statistically and practically significant, contributing 4.37% additional variance explained in LogTotal. These results suggest that the effect of F1 on LogTotal is context-dependent, with renewal acting as a critical boundary condition. The non-significant effects of Gender and Reader Type warrant further investigation to explore potential contextual or sample-specific factors that may influence their relationships with LogTotal in this time period.

4.3.3 2022-2024

4.3.3.1 Model Fit and Overall Significance

The model accounts for a substantial proportion of variance in LogTotal, with an R-squared of 0.5246 (R = 0.7243) and a mean squared error (MSE) of 0.0928. This means 52.46% of the variability in LogTotal is explained by the predictors (F1, renewal, F2, F3, Gender, Reader Type) and the interaction term (F1 × Renewal) included in the model. The overall model is statistically significant ($F = 852.6784$, $df1 = 7$, $df2 = 5408$, $p < 0.001$), confirming that the combined set of predictors explains a significant amount of variance in the outcome variable LogTotal. Table 4 presents the regression coefficients.

4.3.3.2 Main Effects and Covariates

All predictors and covariates exhibit statistically significant relationships with LogTotal ($p < 0.05$), with no non-significant effects observed:

Focal predictor (F1): Has a strong positive main effect on LogTotal ($b = 0.3902$, $SE = 0.0097$, $t = 40.1925$, $p < 0.001$, 95% CI [0.3711, 0.4092]). On average, higher values of F1 are associated with higher LogTotal, after controlling for other variables.

Moderator (Renewal): Shows a positive main effect on LogTotal ($b = 0.1259$, $SE = 0.0088$, $t = 14.3026$, $p < 0.001$, 95% CI [0.1086, 0.1431]). Greater Renewal is independently linked to higher LogTotal.

Covariates:

F2 exerts the strongest positive effect among covariates ($b = 0.1352$, $SE = 0.0042$, $t = 32.0392$, $p < 0.001$, 95% CI [0.1270, 0.1435]).

F3 has a moderate positive effect ($b = 0.0716$, $SE = 0.0042$, $t = 17.2357$, $p < 0.001$, 95% CI [0.0634, 0.0797]).

Reader Type exhibits a smaller positive effect ($b = 0.0361$, $SE = 0.0073$, $t = 4.9557$, $p < 0.001$, 95% CI [0.0218, 0.0504]).

Gender shows a negative effect ($b = -0.0219$, $SE = 0.0096$, $t = -2.2851$, $p = 0.0223$, 95% CI [-0.0407, -0.0031]), though its magnitude is small.

Table 4. Regression coefficient (2022-2024)

	coeff	se	t	p	LLCI	ULCI
Constant	0.4064	0.0215	18.8989	0.0000	0.3643	0.4486
F1	0.3902	0.0097	40.1925	0.0000	0.3711	0.4092
Renewal	0.1259	0.0088	14.3026	0.0000	0.1086	0.1431
Int_1 (F1 × Renewal)	-0.1825	0.0108	-16.9451	0.0000	-0.2036	-0.1614
F2	0.1352	0.0042	32.0392	0.0000	0.1270	0.1435
F3	0.0716	0.0042	17.2357	0.0000	0.0634	0.0797
Gender	-0.0219	0.0096	-2.2851	0.0223	-0.0407	-0.0031
Reader Type	0.0361	0.0073	4.9557	0.0000	0.0218	0.0504

4.3.3.3 Moderation Effect (Interaction)

The interaction term between F1 and Renewal (Int_1) is statistically significant and negative ($b = -0.1825$, $SE = 0.0108$, $t = -16.9451$, $p < 0.001$, 95% CI [-0.2036, -0.1614]). This indicates that Renewal moderates the relationship between F1 and LogTotal. The addition of the interaction term explains a significant increment in variance ($R^2 = 0.0252$, $F = 287.1350$, $df1 = 1$, $df2 = 5408$, $p < 0.001$), verifying the practical significance of the moderation effect.

4.3.3.4 Conditional Effects of F1 at Different Levels of renewal

To clarify the nature of the moderation, conditional effects of F1 on LogTotal were estimated at two values of renewal (0.0000 and 1.0000):

Renewal = 0: The effect of F1 is positive and strong ($b = 0.3902$, $SE = 0.0097$, $t = 40.1925$, $p < 0.001$, 95% CI [0.3711, 0.4092]).

Renewal = 1: The effect of F1 remains positive but is notably weaker ($b = 0.2076$, $SE = 0.0047$, $t = 44.1057$, $p < 0.001$, 95% CI [0.1984, 0.2169]).

This pattern confirms that Renewal weakens the positive relationship between F1 and LogTotal: as renewal increases, the positive impact of F1 on LogTotal decreases.

4.3.3.5 Summary and Implications

F1, Renewal, F2, F3, Gender, and Reader Type all significantly predict LogTotal, with F1 and

F2 being the strongest positive predictors. Gender is the only variable with a negative (though small) effect. The relationship between F1 and LogTotal is moderated by Renewal—higher renewal levels reduce the strength of this positive association. The moderation effect is both statistically and practically significant, contributing 2.52% additional variance explained in LogTotal. These results highlight that the effect of F1 on LogTotal is context-dependent, with Renewal serving as a critical boundary condition. The significant positive effects of F2 and F3 also suggest their importance in shaping LogTotal, while the negative effect of gender warrants further exploration to understand its underlying drivers in this time period.

4.4 Subject Word Clusters

4.4.1 Historical Periods & Dynasties

This category covers specific historical timeframes, dynasties, and chronological divisions, serving as the temporal foundation for historical research.

Ancient Chinese Dynasties: Xia Dynasty (15, 0.01%), Shang Dynasty (48, 0.04%), Zhou Dynasty (42, 0.04%), Qin Dynasty (81, 0.07%), Han Dynasty (163, 0.15%) [including Western Han Dynasty (134, 0.12%), Eastern Han Dynasty (67, 0.06%)], Three Kingdoms Period (188, 0.17%), Jin Dynasty (45, 0.04%) [including Eastern Jin Dynasty (36, 0.03%)], Northern and Southern Dynasties (24, 0.02%) [including Northern Wei Dynasty (48, 0.04%), Western Xia Dynasty (29, 0.03%)], Sui Dynasty (37, 0.03%), Tang Dynasty (526, 0.47%), Song Dynasty (349, 0.31%) [including Northern Song Dynasty (177, 0.16%), Southern Song Dynasty (119, 0.11%)], Liao Dynasty (24, 0.02%), Yuan Dynasty (127, 0.11%), Ming Dynasty (675, 0.60%), Qing Dynasty (781, 0.70%) [including Early Qing Dynasty (36, 0.03%), Late Qing Dynasty (316, 0.28%)]

Historical Eras: Pre-Qin Period (87, 0.08%), Spring and Autumn Period (265, 0.24%), Warring States Period (151, 0.14%), Six Dynasties Period (70, 0.06%), Five Dynasties and Ten Kingdoms Period (21, 0.02%), Ming and Qing Dynasties (206, 0.18%), Republic of China (532, 0.48%), Modern Times (1009, 0.90%), Contemporary Era (209, 0.19%), 19th Century (27, 0.02%), 20th Century (102, 0.09%)

Special Historical Stages: Medieval Period (29, 0.03%), Middle Ages (231, 0.21%), Neolithic Age (15, 0.01%), Stone Age (17, 0.02%)

4.4.2 Historical Geographies

This cluster includes geographical entities related to historical research, such as administrative regions, cultural regions, and regional scopes.

Administrative Regions (China): Beijing City (121, 0.11%), Shanghai City (151, 0.14%), Tianjin City (16, 0.01%), Chongqing City (16, 0.01%), Jiangsu Province (366, 0.33%) [including Nanjing City (259, 0.23%), Suzhou City (80, 0.07%), Yangzhou City (58, 0.05%), Zhenjiang City (15, 0.01%), Changzhou City (14, 0.01%)], Zhejiang Province (100, 0.09%) [including Hangzhou City (26, 0.02%)], Anhui Province (86, 0.08%), Fujian Province (52, 0.05%), Jiangxi Province (21, 0.02%), Shandong Province (65, 0.06%), Henan Province (82, 0.07%), Hubei Province (55, 0.05%), Hunan Province (45, 0.04%), Guangdong Province (42,

0.04%), Guangxi Zhuang Autonomous Region (22, 0.02%), Sichuan Province (66, 0.06%) [including Chengdu City (25, 0.02%)], Guizhou Province (25, 0.02%), Yunnan Province (40, 0.04%), Shaanxi Province (43, 0.04%) [including Xi'an City (31, 0.03%)], Gansu Province (37, 0.03%), Qinghai Province (17, 0.02%), Xinjiang Uygur Autonomous Region (50, 0.04%), Tibet Autonomous Region (23, 0.02%), Taiwan Province (80, 0.07%)

Regional Scopes: East China Region (93, 0.08%), Northeast China Region (21, 0.02%), Northwest China Region (33, 0.03%), Southwest China Region (39, 0.03%), North China Region (17, 0.02%), Yangtze River Basin (21, 0.02%), East Asia (32, 0.03%), Southeast Asia (15, 0.01%), Central Asia (23, 0.02%), Europe (236, 0.21%), Western Europe (15, 0.01%), Africa (14, 0.01%)

Specific Historical Geographical Concepts: Western Regions (15, 0.01%), Bashu Culture Region (28, 0.03%), Huizhou Region (46, 0.04%)

4.4.3 Historical Research Objects & Content

This category focuses on core objects of historical research, including events, figures, cultures, and social phenomena.

Historical Events: Xinhai Revolution (87, 0.08%), May Fourth Movement (51, 0.05%), War of Resistance Against Japanese Aggression (126, 0.11%), Nanjing Massacre (174, 0.16%), Sino-Japanese War of 1894-1895 (37, 0.03%), Taiping Heavenly Kingdom Revolution (52, 0.05%), Wuxu Reform (46, 0.04%), Boxer Movement (17, 0.02%), Xi'an Incident (15, 0.01%), Long March (24, 0.02%), Third Chinese Civil War (21, 0.02%), New Democratic Revolution (17, 0.02%), French Revolution (76, 0.07%), World War I (39, 0.03%), World War II (132, 0.12%), Peloponnesian War (17, 0.02%), Crusades (14, 0.01%)

Historical Figures: Historical Figure (297, 0.27%), Political Figure (806, 0.72%), Politician (636, 0.57%), Military Figure (93, 0.08%), Military Strategist (72, 0.06%), Emperor (200, 0.18%), Queen (16, 0.01%), Empress Dowager (29, 0.03%), Imperial Concubine (25, 0.02%), Scholar (203, 0.18%), Literati (225, 0.20%), Writer (1524, 1.36%), Female Writer (51, 0.05%), Poet (390, 0.35%), Ci Poet (17, 0.02%), Artist (137, 0.12%), Painter (364, 0.33%), Calligrapher (37, 0.03%), Musician (87, 0.08%), Composer (28, 0.03%), Performer (16, 0.01%), Actor/Actress (69, 0.06%), Film Actor/Actress (65, 0.06%), Film Director (58, 0.05%), Director (25, 0.02%), Archaeologist (25, 0.02%), Historian (131, 0.12%), Sociologist (26, 0.02%), Ethnographer (21, 0.02%), Linguist (56, 0.05%), Philosopher (61, 0.05%), Jurist (25, 0.02%), Economist (66, 0.06%), Physicist (92, 0.08%), Biologist (28, 0.03%), Mathematician (48, 0.04%), Educator (198, 0.18%), Education Worker (27, 0.02%), School Principal (20, 0.02%), Entrepreneur (311, 0.28%), Financier (45, 0.04%), Publisher (18, 0.02%), Journalist (72, 0.06%), Reporter (23, 0.02%), Tour Guide (62, 0.06%), Athlete (32, 0.03%), Excellent Athlete (20, 0.02%), Hermit (17, 0.02%)

Historical Cultures: Culture (253, 0.23%), Traditional Culture (120, 0.11%), Chinese Culture (216, 0.19%), Ethnic Culture (169, 0.15%), Bashu Culture (28, 0.03%), Liangzhu Culture (26, 0.02%), Maya Culture (17, 0.02%), Dunhuang Culture (26, 0.02%), Silk Road (69, 0.06%), Ritual and Music (24, 0.02%), Customs and Habits (324, 0.29%), Funeral Custom (30,

0.03%), Festival (54, 0.05%), Buddhism (24, 0.02%), Painting (24, 0.02%), Calligraphy (37, 0.03%), Mural (42, 0.04%), Stone Carving (31, 0.03%), Porcelain (46, 0.04%), Zisha Pottery (14, 0.01%), Bronze Ware (45, 0.04%), Ancient Jade Articles (80, 0.07%), Records of the Grand Historian (20, 0.02%), Historical Records (211, 0.19%), Higher Education (31, 0.03%), Institution of Higher Education (422, 0.38%)

Historical Societies: Social Life (110, 0.10%), Social Change (35, 0.03%), Social Development (53, 0.05%), Social Problem (15, 0.01%), Family (187, 0.17%), Clan (37, 0.03%), Forbidden City (38, 0.03%), Capital City (24, 0.02%), City (32, 0.03%), Town (14, 0.01%), Village (43, 0.04%), City Wall (14, 0.01%), Tomb (41, 0.04%), Mausoleum (54, 0.05%), Temple (23, 0.02%), Ancestral Hall (18, 0.02%), Former Residence (17, 0.02%), Cultural Heritage Site (77, 0.07%), Historical Site (60, 0.05%), Travel Guide (418, 0.37%)

4.4.4 Historical Research Methods & Theories

This cluster includes methods, theories, and tools used in historical research.

Historical Research Methods: Research (6924, 6.20%), Comparative Research (54, 0.05%), Textual Research (40, 0.04%), Archaeological Research (444, 0.40%), Excavation Research (48, 0.04%), Statistical Research, Quantitative Research, Qualitative Research

Historical Research Theories: Historical Theory (93, 0.08%), Historiographical Theory (93, 0.08%), Historical Philosophy (122, 0.11%), Historical Sociology (14, 0.01%), Historical Geography (230, 0.21%)

Historical Research Tools: Research Method (80, 0.07%), Teaching and Research (28, 0.03%)

4.4.5 Historical Research Materials & Carriers

This category covers materials and carriers for historical research, such as documents, artifacts, and sites.

Historical Documents: Document (41, 0.04%), Historical Document, Memorial to the Throne (16, 0.01%), Ancient Books (26, 0.02%), Juyan Bamboo Slips (20, 0.02%), Bamboo Slips and Silk Manuscripts (19, 0.02%)

Historical Artifacts: Cultural Relic (100, 0.09%), Unearthed Cultural Relics (62, 0.06%), Bronze Ware (45, 0.04%), Bronze Inscriptions (42, 0.04%), Ancient Jade Articles (80, 0.07%), Stone Carving (31, 0.03%), Mural (42, 0.04%), Tomb Mural (20, 0.02%), Porcelain (46, 0.04%), Lacquerware (14, 0.01%), Zisha Pottery (14, 0.01%)

Historical Sites: Cultural Heritage Site (77, 0.07%), Grotto (33, 0.03%), Dunhuang Grottoes (82, 0.07%), Grand Canal (16, 0.01%)

4.4.6 Historical Disciplines & Branches

This cluster includes specific disciplines and branches under the historical discipline.

General History: World History (702, 0.63%), Chinese History (2094, 1.87%), Ancient History (2005, 1.79%), Modern History (519, 0.46%), Contemporary History (209, 0.19%)

Special History: Historical Geography (230, 0.21%), Historical Linguistics, Historical Anthropology, Historical Ethnology (21, 0.02%), Historiography (360, 0.32%), History of Historiography (185, 0.17%)

Interdisciplinary History: History and Sociology (14, 0.01%)

4.4.7 Historical Institutions & Organizations

This category covers institutions related to historical research, protection, and dissemination.

Research Institutions: Institution of Higher Education (422, 0.38%), Graduate Student (32, 0.03%)

Protection Institutions: Cultural Relic Protection (25, 0.02%)

Dissemination Institutions: Publishing House (18, 0.02%), Library, Archive (15, 0.01%)

4.4.8 Historical Time & Chronology

This cluster includes time units and chronological tools for historical research.

Time Units: 1840-1919 (16, 0.01%), 1840-1949 (17, 0.02%), 1894-1949 (18, 0.02%), 1912-1949 (532, 0.48%), 1937 (26, 0.02%), 1937-1945 (30, 0.03%), 1939-1945 (14, 0.01%), 1949 (17, 0.02%), 19th Century (27, 0.02%), 20th Century (102, 0.09%)

Chronological Tools: Chronology, Historical Chronology (17, 0.02%), Chronological Table (191, 0.17%)

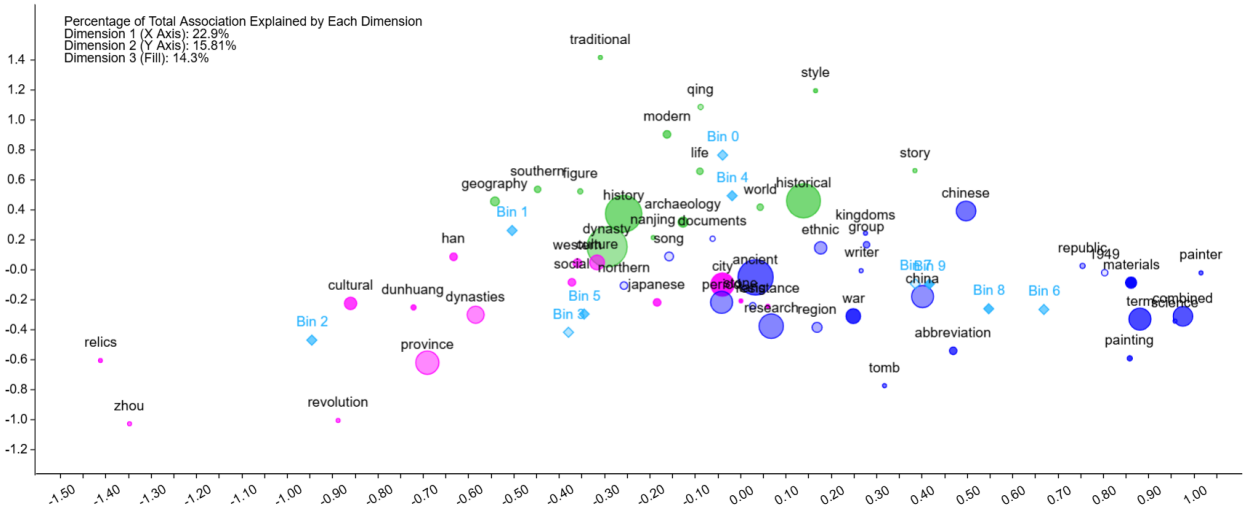

Figure 5. Subject word clustering

Figure 5 demonstrates how Voyant distills historical books' thematic structure into interpretable semantic zones, enabling scholars to quickly grasp dominant research themes, interdisciplinary links, and gaps in historical discourse. Dimension 1 (X-axis) accounts for 22.3%, Dimension 2 (Y-axis) for 16.01%, and Dimension 3 (Z-axis, implied) for 14.3%.

These dimensions capture the primary variance in thematic word relationships, with Dimension 1 being the most influential in structuring term distribution.

Terms cluster in distinct zones, each representing a cohesive thematic focus:

Cultural and Ethnic Identity Zone (Left Region, e.g., “han”, “southern”, “northern”, “cultural”, “dunhuang”, “dynasties”), words like “han” (referring to the Han ethnic group or Han Dynasty), “southern”, “northern” (denoting regional cultures), and “dunhuang” (a key site of ethnic/cultural exchange) cluster here. This zone centers on ethnic dynamics, regional cultures, and cultural heritage in Chinese history.

Historical Periods and Styles Zone (Upper Region, e.g., “traditional”, “modern”, “style”, “qing”), terms such as “traditional”, “modern” (contrasting temporal styles), and “qing” (Qing Dynasty) cluster vertically. This zone emphasizes temporal classification and stylistic evolution across historical eras.

Archaeology and Material Culture Zone (Central Region, e.g., “archaeology”, “relics”, “tomb”, “documents”), words like “archaeology”, “relics”, “tomb”, and “documents” cluster centrally. This zone focuses on material evidence and research methods (archaeology, archival study) for historical inquiry.

Literary and Narrative Zone (Right Region, e.g., “story”, “life”, “word”, “historical”, “painter”, “painting”), terms such as “story”, “life” (narrative forms), “word” (textual analysis), and “painter”/“painting” (artistic history) cluster here. This zone highlights historical representation through literature, art, and storytelling.

Overlapping Terms (e.g., “song”, “war”, “research”) bridge zones, reflecting interdisciplinary connections. For example, “song” links cultural identity (as a dynasty) and literary narrative (as a poetic form). Isolated Terms (e.g., “zhou”, “revolution”) lie at the periphery, indicating niche themes with weaker associations to the dominant clusters (e.g., the Zhou Dynasty or revolutions as specialized topics).

5. Discussion

5.1 The Pandemic as a Critical Turning Point Shaping the Evolution of Borrowing Behavior Factors

The shift in factor structures (from a single TSI factor pre-pandemic to multi-factor systems post-pandemic) and moderator roles (from Gender to Renewal) confirms that the COVID-19 pandemic acted as an exogenous shock that reshaped the fundamental logic of historical book borrowing. Pre-2019, users’ borrowing decisions were driven by stable, integrated time-space-interest coupling (reflected in the sole TSI factor), a dynamic consistent with how space and time, as social constructions, shape dominant narratives and related engagement with texts (Reuber, 2005). Gender effectively moderated this relationship by capturing inherent differences in gender-based borrowing rhythms and interest orientations. In contrast, 2019–2021 saw factor fragmentation (TSI, I, SI) and the rise of Renewal as a moderator, as pandemic-induced physical access constraints decoupled time, space, and interest—users either retained interest-driven preferences without spatial-temporal links (I factor) or shifted

to specialized spaces with irregular timelines (SI factor). This echoes how place-based reading emphasizes bidirectional text-place attention, a connection disrupted by limited physical access (Eggersen, 2024). By 2022–2024, the stabilized TSI, TS, and I factor, along with the persistent moderating role of Renewal, indicate a "new normal" in borrowing behavior: post-pandemic users have not fully returned to pre-pandemic patterns but instead developed adaptive behaviors (e.g., habitual spatial-temporal visits decoupled from interest in the TS factor), with Renewal remaining critical as it reflects sustained usage needs amid lingering access uncertainties. This evolution underscores that external contextual disruptions can redefine the salience of behavioral drivers, requiring dynamic adjustments to analytical frameworks, much like how academic geography's disciplinary narratives and educational practices often misalign, demanding adaptive approaches (Bruinsma, 2024).

5.2 The Diminishing Explanatory Power of Gender and the Rising Salience of Renewal: A Behavioral Logic Shift

The transition from Gender to Renewal as the key moderator reveals a fundamental shift in the core determinants of borrowing behavior—from "inherent demographic traits" to "contextually adaptive preferences." Pre-pandemic (2016–2018), Gender exerted a significant negative main effect and amplified the F1-LogTotal relationship (stronger for females), as stable library access allowed demographic-based preferences (e.g., female users' more pronounced alignment with TSI-driven borrowing) to dominate. This aligns with observations that in modern education systems, gender differences influence reading interest, with girls often showing greater engagement in history and geography (Gylfason & Zoega, 2021). Post-2019, however, Gender's explanatory power declined: it became non-significant in 2019–2021 and only weakly negative in 2022–2024, while Renewal emerged as a consistent moderator that weakens the F1-LogTotal association. This shift occurs because Renewal directly addresses the pandemic-induced constraint of limited physical access: users with high Renewal willingness rely less on TSI-driven initial borrowing (e.g., timing visits to specific libraries for preferred books) and instead extend existing loans, reducing TSI's marginal impact on total borrowing volume. Such adaptive behavior mirrors how, in specific historical periods, institutional interests drive book collection and availability, which in turn shapes user access and usage (Davis, 2006). The persistence of Renewal's moderating role in 2022–2024 further suggests that adaptive behaviors like prioritizing loan extensions have become entrenched, even as libraries resumed normal operations. This finding challenges the traditional reliance on demographic moderators in library behavior research, highlighting the need to prioritize context-specific, adaptive variables in post-disruption settings, similar to how colonial geographical knowledge and regional contexts drive demand for specific books, requiring context-sensitive analysis (Fitzpatrick, 2024).

5.3 The Interpretive Value of Multi-Factor SEM Results: Unpacking Heterogeneous Borrowing Motivations

The SEM results across periods provide nuanced insights into the heterogeneous drivers of historical book borrowing and their interdependencies. Pre-pandemic, the absence of multi-factor structures simplified borrowing behavior to integrated TSI-driven decisions, but

post-pandemic SEM models reveal distinct, complementary factor roles. In 2019–2021, moderate correlations between F1 (TSI) and F2 (I) (r=0.421), F1 and F3 (SI) (r=0.418), and weak F2-F3 correlation (r=0.167) indicate three relatively independent user segments: core TSI-driven borrowers, interest-only borrowers, and space-interest-focused borrowers. By 2022–2024, the strong F1-F2 (TSI-TS) correlation (r=0.687) and moderate F1-F3 (TSI-I)/F2-F3 (TS-I) correlations (r=0.318, r=0.413) suggest greater convergence between spatial-temporal behaviors (TSI, TS) while retaining interest as a distinct driver. Additionally, the declining variance contribution of the interaction term (R^2 change: 6.52% in 2016–2018 vs. 4.37% in 2019–2021 vs. 2.52% in 2022–2024) indicates that as borrowing behavior stabilizes post-pandemic, the conditional effect of the moderator (Renewal) becomes less pronounced—though still significant—reflecting reduced behavioral uncertainty. These SEM findings emphasize that multi-factor models are essential for capturing segmented borrowing motivations in disrupted contexts, as single-factor frameworks fail to account for the decoupling and recoupling of time, space, and interest, much like how "geography of the book" approaches highlight space as a critical agent in book production, distribution, and consumption (Leles, 2021).

5.4 The Shift in Moderating Variables Aligns with the Fundamental Transformation of User Book-Borrowing Behavior Patterns

The shift in moderating variables (from gender to renewal willingness) aligns with the fundamental transformation of user book-borrowing behavior patterns triggered by the COVID-19 pandemic, which optimizes the model's predictive power by capturing context-specific interaction mechanisms between the independent variable (TSI) and dependent variable (LogTotal).

In the stable pre-pandemic context, user book-borrowing behavior followed predictable, gender-based behavioral norms, making gender an effective boundary condition for explaining TSI's influence on borrowing volume. Pre-pandemic, users typically borrowed books in physical libraries, with clear gender differences in time allocation (e.g., frequency of library visits), spatial preferences (e.g., preference for reading zones), and interest orientations (e.g., fiction vs. non-fiction). These differences directly modulated how TSI translated into actual borrowing decisions. This aligns with how students at the Verny men's gymnasium, in a specific spatial setting and historical period, developed book-reading skills that shaped their engagement with history and geography content (Mukhatova et al., 2024). Without external disruptions, gender-related preferences remained consistent over time. This stability ensured that gender could reliably capture the heterogeneous effects of TSI on LogTotal, as the interaction between TSI and gender reflected long-standing, unchanging user behavioral patterns.

The pandemic shattered pre-pandemic behavioral norms, and renewal willingness emerged as a contextual core variable that better reflects the new constraints and motivations shaping the TSI-LogTotal relationship. Lockdowns and social distancing limited in-person library visits, making "Renewal" a critical adaptive behavior to extend book usage. Renewal willingness directly represents users' ability to cope with spatial-temporal constraints, thus redefining

how TSI (e.g., adjusted time for remote reading, shifted interest in pandemic-related books) affects total borrowing volume. This mirrors how George Bancroft's personal academic interests and spatial mobility influenced his acquisition and spread of geographical knowledge through books, adapting to changing contexts (Somos, 2020).

Post-pandemic, user concerns shifted from "initial borrowing choices" (shaped by gender-based interests pre-pandemic) to "sustained usage needs" (driven by renewal willingness). Renewal willingness captures users' dynamic evaluations of book value under uncertainty (e.g., whether a book is worth extending use due to limited alternative access), which more accurately modulates the strength and direction of TSI's impact on LogTotal than gender (whose explanatory power declined as pandemic-induced needs overshadowed gender-based preferences). This shift echoes how European myths about the "antipodes" and spatial exploration interests shaped the reception of related books, with evolving contexts altering engagement patterns (Arthur, 2008).

The model's improved predictive power stems from the context-match between moderators and the pandemic-induced behavioral regime shift. Pre-pandemic, gender effectively segmented the heterogeneous effects of TSI by aligning with stable, gender-specific usage patterns. Post-pandemic, renewal willingness replaced gender because it directly addresses the pandemic's key impact—constraints on access and changes in usage motivation. Using contextually mismatched moderators (e.g., gender post-pandemic) would fail to capture the new interaction mechanisms between TSI and LogTotal, leading to model bias. In contrast, renewal willingness as a moderator integrates the pandemic's contextual constraints into the model, enabling it to explain how TSI translates into borrowing volume under the new behavioral logic, similar to how specific historical periods and educational purposes drive the creation and dissemination of geographical books (Azarbadegan, 2020).

5.5 Subject Word Clusters and Thematic Zones: Aligning Behavioral Factors with Content Preferences

The subject word cluster analysis and Voyant thematic zoning provide critical content-level validation for the observed factor and moderator shifts, linking behavioral patterns to users' historical research interests. The dominance of "Ming Dynasty" (0.60%), "Qing Dynasty" (0.70%), and "Modern Times" (0.90%) in historical periods, along with high frequencies of "Political Figure" (0.72%) and "Writer" (1.36%), indicates sustained demand for late imperial and modern Chinese history, which aligns with the pre-pandemic TSI factor (users' regular visits to core lending rooms for these high-interest topics). Post-pandemic, the persistence of the I factor (interest-only) correlates with the stability of niche clusters like "Historical Geography" (e.g., "Yangtze River Basin," "Bashu Culture Region") and "Archaeological Research" (0.40%), as users retained interest in these specialized areas even when spatial-temporal access was limited. This aligns with how Appian's "Illyrian Chapter" remained relevant to Croatian scholars across different historical periods due to sustained academic interest in ancient history and geography (Kuntić-Makvić, 2024). The Voyant thematic zones further reinforce this alignment: the "Archaeology and Material Culture Zone" (central cluster) maps to the SI factor (space-interest coupling) in 2019–2021 (users

shifting to specialized libraries like the Bio-Geo Library for material culture research), while the "Literary and Narrative Zone" (right cluster) correlates with the I factor (interest-driven borrowing for literary history). This content-behavior alignment confirms that factor shifts are not arbitrary but reflect users' efforts to reconcile external access constraints with enduring content preferences. Moreover, it highlights the value of integrating behavioral factor analysis with thematic content analysis to develop a holistic understanding of library user behavior—one that links how users borrow (behavioral factors) to what they borrow (content interests), similar to how textbooks, as both depositories and constructors of discourses, shape engagement with school subjects like geography (Del Gaudio & Neto, 2023).

6. Conclusion

This study conducts a systematic examination of the borrowing behavior associated with historical and geographical books (K-class) at Nanjing Normal University spanning the period from 2016 to 2024, uncovering dynamic shifts in user behavior that are driven by both external disruptions—such as the COVID-19 pandemic—and changes in internal user preferences.

First, regarding the evolution of behavioral factors in response to contextual shocks, the structural composition of factors influencing borrowing behavior underwent significant transformations across three distinct time periods. During the pre-pandemic era (2016–2018), a unified TSI factor—characterized by the integration of temporal, spatial, and interest-related dimensions—exerted a dominant influence. This factor reflected stable borrowing rhythms that exhibited seasonal consistency, closely linked to physical library spaces (e.g., the Jingwen and Suiyuan libraries) and core user interests (focused on subcategories K2 and K8). Gender functioned as a moderator in this relationship: female users amplified the positive effect of the TSI factor on borrowing volume. In the pandemic period (2019–2021), behavioral fragmentation emerged, leading to the decomposition of the unified TSI factor into three specialized factors: a core TSI factor (representing integrated borrowing behavior), an I factor (decoupled from temporal and spatial constraints), and a SI factor (involving the coupling of spatial preferences and interests, yet decoupled from time). Notably, Renewal Intention replaced gender as a critical moderator during this phase, weakening the relationship between the TSI factor and borrowing volume—users with high renewal needs demonstrated reduced reliance on the initial alignment of time, space, and interest. In the post-pandemic period (2022–2024), the factors stabilized into TSI, TS, and I, reflecting adaptive "new normal" borrowing behaviors: a refined TSI factor (concentrated on the Jingwen Library and spring-summer months), a TS factor (representing habitual spatial-temporal library visits decoupled from fixed interests), and a persistent I factor (driven by interest alone). Renewal Intention remained a key moderator, though its incremental contribution to variance diminished as user behavior stabilized.

Second, the shift in moderators—from demographic attributes (gender) in the pre-pandemic period to adaptive preferences (Renewal Intention) in the post-pandemic period—highlights a fundamental transformation in the underlying logic of borrowing behavior. The explanatory

power of gender declined post-pandemic, as pandemic-induced constraints on library access overshadowed preferences rooted in demographic characteristics. In contrast, Renewal Intention emerged as a critical adaptive behavior, capturing users' efforts to sustain book usage amid uncertainties surrounding physical library access. Its role in weakening the TSI-borrowing volume relationship underscores a shift in user priorities from "initial demographic-driven choices" to "sustained usage needs."

Third, the alignment between content preferences and borrowing behavior—validated through subject word clustering and Voyant thematic zoning—confirms the relevance of behavioral factor shifts to user interest patterns. Core interests (e.g., in the Ming and Qing dynasties, political figures, and writers) correlated with the pre-pandemic TSI-driven borrowing behavior. Niche interest clusters (e.g., in historical geography and archaeological research) persisted in the post-pandemic period, mirroring the stability of the I factor (interest-only borrowing). Thematic zones (e.g., "Archaeology and Material Culture," "Literary and Narrative Studies") mapped directly to the identified factor structures, confirming that shifts in borrowing behavior represent users' efforts to reconcile access constraints with enduring content interests.

Fourth, the findings of this study offer actionable implications for library practice and academic research. For library practice, the adoption of dynamic behavioral frameworks is recommended—libraries should implement adaptive analytical models to capture context-specific shifts (e.g., integrating Renewal Intention as a key moderator in the aftermath of disruptive events). In terms of user-centric resource allocation, libraries should prioritize resources for high-demand interest clusters (e.g., late imperial and modern Chinese history) and enhance support for adaptive behaviors (e.g., optimizing renewal services) to meet users' sustained usage needs. For research, interdisciplinary integration is encouraged: combining behavioral factor analysis with content-themed approaches to develop holistic user profiles, thereby enhancing user engagement with historical and geographical materials.

In conclusion, the COVID-19 pandemic served as a critical exogenous shock, redefining the relative importance of drivers influencing borrowing behavior. In the post-disruption era, user behavior has stabilized into adaptive patterns that balance enduring content interests with context-sensitive access strategies. This study advances scholarly understanding of library user behavior in dynamic environments, emphasizing the need for flexible, context-aware analytical frameworks in research and practical frameworks in library service design.

References

Ardila, J. R. (2022). From the public repository to the university classroom: Students of the National University at the National Library, United States of Colombia, 1870–1874. *Historia Crítica, 83*, 3–31. https://doi.org/10.7440/histcrit83.2022.01

Arthur, P. L. (2008). Teaching and learning guide for: Antipodean myths transformed: The evolution of Australian identity. *History Compass, 6*(5), 1394–1399. https://doi.org/10.1111/j.1478-0542.2008.00547.x

Azarbadegan, Z. (2020). The world-revealing goblet: Reading Farhad Mirza's geographical

treatise Jam-i Jam as a lithograph. *Philological Encounters, 5*(3–4), 409–449. https://doi.org/10.1163/24519197-bja10011

Belentsov, S. I., Malykhina, O. N., Gulankov, E. V., & Morgunova, N. I. (2021). Educational character of comprehended reading in Russia (1870–1900). *International Transaction Journal of Engineering Management & Applied Sciences & Technologies, 12*(2), 12A2J. https://doi.org/10.14456/itjemast.2021.31

Bonnett, A. (2003). Geography as the world discipline: Connecting popular and academic geographical imaginations. *Area, 35*(1), 55–63. https://doi.org/10.1111/1475-4762.00110

Bornman, E., Steenkamp, C., & Wierenga, R. (2025). State of Dutch: An overview of tendencies in Dutch-speaking regions. *Tydskrif Vir Geesteswetenskappe, 65*(2), 546–573. https://doi.org/10.17159/2224-7912/2025/v65n2a1

Bruinsma, M. (2024). Fieldwork nearby and far away: Student-geographers and the expanded field in the history of geography. *Journal of Historical Geography, 85*, 33–35. https://doi.org/10.1016/j.jhg.2024.04.003

Crang, M. A. (2003). Placing Jane Austen, displacing England: Touring between book, history, and nation. In S. R. Pucci, & J. Thompson (Eds.), *Jane Austen and Co.: Remaking the past in contemporary culture* (pp. 111–130). State University of New York Press. https://doi.org/10.1163/9789004218571_008

Davis, D. G. (2006). Books, maps, and politics: A cultural history of the Library of Congress, 1783–1861. *Journal of Interdisciplinary History, 37*(1), 133–134. https://doi.org/10.1162/jinh.2006.37.1.133

Del Gaudio, R. S., & Neto, M. F. S. (2023). Textbooks as sources for research in the history of school geography. *Boletim Goiano de Geografia, 43*(1), e73011. https://doi.org/10.5216/bgg.v43i01.73011

Dvortsova, N. P. (2021). *Konstantin Vysotsky and the media revolution in a Siberian regional town of the second half of the 19th century.* Tekst Kniga Knigoizdanie-Text Book Publishing, 27, 86–102. https://doi.org/10.17223/23062061/27/5

Eggersen, D. V. (2024). Place-based reading: Literature didactics outside the classroom. *L1 Educational Studies in Language and Literature, 24*(1), 1–19. https://doi.org/10.21248/l1esll.2024.24.1.384

Escalante Varona, A., Soto-Vázquez, J., & Gutiérrez Gallego, J. A. (2023). An approximation for reading habits among students of arts and education at the University of La Rioja (Spain). *Investigaciones sobre Lectura, 18*(1), 58–80. https://doi.org/10.24310/isl.v18i1.15757

Fitzpatrick, H. (2024). *Mapping Partition: Politics, territory and the end of empire in India and Pakistan.* Wiley. https://doi.org/10.1002/9781119673859

Frolov, A. A. (2009). Census books as a source for historical geography. *Cahiers Du Monde Russe, 50*(2–3), 315+. https://doi.org/10.4000/monderusse.7076

Gylfason, G., & Zoega, G. (2021). Gender differences in Iceland's education system. *Tímarit Um Uppeldi Og Menntun-Icelandic Journal of Education, 30*(2), 135–165. https://doi.org/10.24270/tuuom.2021.30.11

Kaya, R., & Günal, H. (2022). History students' awareness of "the importance of knowing how history is written". *Çukurova University Faculty of Education Journal, 51*(1), 340–366. https://doi.org/10.14812/cufej.1024209

Klinger, D., & Ximenes, V. (2021). Rio de Janeiro as a park of ruins: Digging through images in a site-specific poetry book. Intermedialites, 37–38. 1–27. https://doi.org/10.7202/1086251ar

Kuntić-Makvić, B. (2024). Croatia's viri illustres and Appian of Alexandria. *Radovi Zavoda za Hrvatsku Povijest, 56*(1), 83–118. https://doi.org/10.17234/RadoviZHP.56.2

Leles, G. (2021). The places of the book in geography: Approaches in the geography of the book and in the history of school geography. *Geo Uerj, 39*, e54361. https://doi.org/10.12957/geouerj.2021.54361

Mormiche, P. (2012). Schoolbooks and reading: The education of French princes during the 17th and 18th centuries. *Zeitschrift für Erziehungswissenschaft, 15*(2), 219–236. https://doi.org/10.1007/s11618-012-0320-x

Mukhatova, O. K., Tleubayev, S. B., Belous, S. G., & Konkabayeva, A. N. (2024). Verny Men's Gymnasium and future Alash figures. *Bylye Gody, 19*(1), 258–267. https://doi.org/10.13187/bg.2024.1.258

Nelson, E. C. (2023). Mark Catesby, Cromwell Mortimer and Philosophical Transactions of the Royal Society (1730–1748): Summarizing Catesby's The natural history of Carolina, Florida and the Bahama islands. *Archives of Natural History, 50*(2), 295–303. https://doi.org/10.3366/anh.2023.0862

Ösz, S. E. (2023). Works of Protestant reformers in the collections of the University Library of Cluj-Napoca. *Philobiblon-Transylvanian Journal of Multidisciplinary Research in Humanities, 28*(1), 23–40. https://doi.org/10.26424/philobib.2023.28.1.02

Pitulko, G. (2022). Printing as a factor in the evolution of political institutions in the early modern Europe. *Istoriya-Elektronnyi Nauchno-Obrazovatelnyi Zhurnal, 13*(1). https://doi.org/10.18254/S207987840019036-8

Podosokorsky, N. N. (2023). A history by Friedrich Christoph Schlosser in The Idiot by Fyodor Dostoevsky. *Tekst Kniga Knigoizdanie-Text Book Publishing, 33*(4), 65–77. https://doi.org/10.17223/23062061/33/4

Reuber, P. (2005). Writing history—writing geography: On the relationship between time and space in history and geography. *Geographische Zeitschrift, 93*(1), 5–16.

Risopatrón, C. M., Salas, G. A., Díaz, P. O., & Gaete, G. V. (2023). Personal reading history: Reading interests among pedagogy students in a Chilean university. *Palabra, 46*, e16570.

https://doi.org/10.19053/01218530.n46.2023.16570

Safronova, Y. A. (2025). Book landscape of the provincial city and the generation of readers of the 1870s. *Vestnik Permskogo Universiteta-Istoriya-Perm University Herald-History, 68*(1), 142–153. https://doi.org/10.17072/2219-3111-2025-1-142-153

Sixsmith, L. (2022). "I went and prayed to have my name put down in the missionaries' book": Gift exchange and Bible transactions in Britain and Antigua, 1834–1884. *Textual Practice, 36*(10), 1753–1774. https://doi.org/10.1080/0950236X.2021.1971754

Smout, T. C., MacDonald, A. R., & Watson, F. (2007). *A history of the native woodlands of Scotland, 1500–1920* (pp. 1–434). Edinburgh University Press.

Sobolievskyi, Y., & Sobolievska, L. (2022). Platonism and cosmology in early American Puritan philosophy. *Philosophy and Cosmology-Filosofiya I Kosmologiya, 29*, 125–134. https://doi.org/10.29202/phil-cosm/29/11

Somos, M. (2020). George Bancroft in Göttingen: An American reception of German legal thought. *History of European Political and Constitutional Thought, 3*, 9–40. https://doi.org/10.1163/9789004435315_003

Stafford, M. (2016). Journeys through Bookland's imaginative geography: Pleasure, pedagogy, and the child reader. In J. A. Appleyard & R. M. Flynn (Eds.), *Space and Place in Children's Literature, 1789 to the Present* (pp. 147–161). Taylor and Francis. https://doi.org/10.4324/9781315610108-12

Tallis, L. (2022). Bibliomania and marginalia: Unexpected histories in the margins of the Salisbury Library, Special Collections and Archives at Cardiff University. *Welsh History Review, 31*(1), 150–176. https://doi.org/10.16922/whr.31.1.7

Acknowledgments

Not applicable.

Authors contributions

Not applicable.

Funding

This research was funded by the 2025 Teaching Reform Research Project of Jiangsu University Library Working Committee: Research on Demand Identification and Resource Adaptation Based on Readers' Reading Behaviors, China (2025JTYB39).

Competing interests

The author declares that she has no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Macrothink Institute.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

Open access

Copyrights