

Post-print of the Revision and Validation of the Library Anxiety Scale in Public Reading Contexts

Authors: Yang Jing

Date: 2023-07-26T00:00:00+00:00

Abstract

[Purpose/Significance] Library anxiety is an uncomfortable feeling or emotional state experienced by library users when entering the library, which adversely affects the effective utilization of library resources. Scientifically measuring and investigating library users' anxiety levels and their influencing factors in public library contexts can help improve user services and enhance service effectiveness. [Method/Process] Using methods such as literature review and questionnaire surveys, this study revised the existing library anxiety scale based on the public library context. The revised scale demonstrates good reliability and validity, serving as a measurement tool to evaluate library users' anxiety from four dimensions: library literacy, emotion, resource quality, and resource access. [Results/Conclusion] The study reveals that library users do experience certain levels of anxiety when using public libraries, with the highest anxiety level observed in resource access. Users' anxiety levels are influenced by factors such as age, education level, and frequency of library visits. This study proposes alleviating users' anxiety across all dimensions by conducting user training programs, strengthening human-centered service development, promoting mobile inquiry services, and improving signage and wayfinding systems.

Full Text

Preamble

Vol. 63 No. 7, April 2019
ChinaXiv Cooperative Journal

Revision and Validation of the Library Anxiety Scale in Public Reading Contexts

National Library of China, Beijing 100081

Abstract

[Purpose/Significance] Library anxiety refers to the uncomfortable feelings or emotional states that readers experience when entering a library, which adversely affects the effective utilization of library resources. Scientifically measuring and exploring readers' anxiety levels and their influencing factors in public reading contexts can help improve reader services and enhance service effectiveness. **[Method/Process]** Using literature review, questionnaire surveys, and other methods, this study revises the existing Library Anxiety Scale based on the public reading context. The revised scale demonstrates good reliability and validity, serving as a measurement tool to assess readers' anxiety from four dimensions: library literacy, emotion, resource quality, and resource access. **[Result/Conclusion]** The study reveals that readers do experience certain levels of anxiety when using public libraries, with the highest anxiety occurring in resource access. Readers' anxiety levels are influenced by factors such as age, education level, and frequency of library visits. This research proposes alleviating readers' anxiety across all dimensions through reader training, enhanced humanistic service construction, promotion of mobile query services, and improved guidance signage.

Classification Number: G252

Keywords: Library anxiety; Public reading; Scale revision

DOI: 10.13266/j.issn.0252-3116.2019.07.009

Anxiety is a significant concept in psychology, generally referring to unpleasant emotions arising from anticipating negative consequences or ambiguous threats [1]. In 1986, American librarian C.A. Mellon first proposed the concept of library anxiety, defining it as the anxiety students experience when they must collect materials in libraries for research paper writing and cannot reasonably and effectively handle encountered problems. This includes cognitive, emotional, psychological, and behavioral discomfort or emotional states [2].

2. Review of Important Domestic and International Research

This marked the beginning of library anxiety research [4]. In 1972, M.J. Swoppe and J. Katzer surveyed 119 university students and found that 41% experienced anxiety when using libraries, yet 65% were unwilling to consult librarians. Foreign scholars define library anxiety as an uncomfortable feeling or emotional state that occurs when readers enter or intend to visit a library, resulting from multiple factors and manifesting as cognitive, emotional, physiological, and behavioral barriers [3]. This emotion negatively impacts the effective utilization of library resources. Like mathematics anxiety and statistics anxiety, the antecedents of library anxiety include personality antecedents, situational antecedents, and environmental antecedents [5]. In research on public libraries, American librarian K. Antell interviewed 17 college students using public libraries and categorized influencing factors into convenience, materials, comfort

and familiarity with use, staff assistance, and subjective preferences [6].

Regarding measurement tool development, S.L. Bostick developed the Library Anxiety Scale (LAS) based on early research findings, with five dimensions: barriers caused by librarians, readers' personal emotional barriers, library comfort, readers' library knowledge, and barriers to using library equipment [7]. Subsequently, Q.G. Jiao and A.J. Onwuegbuzie conducted extensive empirical research and identified eight factors related to library anxiety: age, gender, grade, native language, GPA, part-time work status, frequency of library visits, and reasons for library use [8]. In 2001, Israeli scholars S. Shoham and D. Mizrahi adapted the LAS into a Hebrew version (Hebrew Library Anxiety Scale, H-LAS) for 本土化 research [9]. In 2004, D.J. Van Kampen developed the Multidimensional Library Anxiety Scale based on the information retrieval model, dividing dimensions into comfort and confidence in using libraries, information retrieval process and general library anxiety, staff barriers, importance of library use, and technological comfort [10]. Additionally, Kuwaiti scholar M.A. Anwar et al. [11] and Polish scholar M. Swigon [12] also constructed library anxiety scales suitable for their national contexts.

In China, research on revising library anxiety measurement tools started relatively late. In 2006, He Wei [13] systematically studied library anxiety in his master's thesis "Revision and Application Research of the Library Anxiety Scale," introducing psychometric methods to the library and information science field and completing the first Chinese library anxiety scale with 5 dimensions and 63 items: knowledge barriers, staff barriers, comfort barriers, retrieval barriers, and emotional barriers. In 2011, Song Zhiqiang, Xue Yu, and Zhao Wei [14] constructed a library anxiety scale suitable for current library environments through questionnaire surveys and empirical research, providing more quantitative survey tools for domestic research. The scale involved 7 dimensions: resources, retrieval, system, staff, knowledge, comfort, and emotion. Subsequently, Song Zhiqiang [15] conducted a second revision in his doctoral dissertation, 最终形成 a 7-dimension, 36-item library anxiety scale. In 2015, Wan Yunfang et al. [16] revised and validated the existing library scale using structural equation modeling, with 3 dimensions: retrieval confusion, environmental discomfort, and emotional barriers, comprising 10 items.

3. Adjustment and Revision of the Library Anxiety Scale

3.1 Development of the Preliminary Questionnaire

This study adopted a 5-point Likert scale format. Item development primarily referenced S.L. Bostick's Library Anxiety Scale (LAS) [7], He Wei's revised Chinese version (C-LAS) [13], and Song Zhiqiang's revised scale [14]. Items were adapted for applicability to the public reading context, with modifications to content and wording, and self-developed items were added to supplement the scale, 最终形成 a 74-item pool.

The 74 items were compiled into a "scale development opinion form" distributed

to relevant scholars and frontline librarians to solicit feedback on item clarity and dimension appropriateness. Based on collected feedback, items were revised. Considering the practicalities of public reading contexts, the total number of items was reduced, 最终保留 46 items distributed across 7 dimensions: system, staff, comfort, convenience, resource quality, knowledge, and emotion.

3.2 Distribution and Collection of the Preliminary Questionnaire

The questionnaire was distributed through both on-site and online formats. For on-site distribution, surveys were administered in 4 reading rooms providing public reading services at the National Library of China. For online distribution, the questionnaire was published on the Wenjuanxing platform with response frequency limitations. Distribution occurred from June 12 to June 20, 2015 (9 days). A total of 450 questionnaires were distributed, with 404 returned (315 on-site, 89 online). After preliminary screening, 4 invalid questionnaires were eliminated, yielding 400 valid questionnaires (88.89% valid response rate). Participants ranged in age from 16 to 80 years, including 158 males and 242 females. In general scale development, the pretest sample size should exceed 5 times the number of scale items. With 46 initial items, the 402 valid samples exceeded this 5:1 ratio, meeting large-sample requirements.

Collected data were organized and analyzed using Excel and SPSS. Reverse-scored items were recoded, and missing values were replaced with series means during data entry. Questionnaires with \$ \$5 missing values were eliminated.

3.3 Item Analysis

The effectiveness of an item depends on its ability to differentiate subjects on the underlying trait. This study referenced standard item analysis criteria in scale development (see Table 1) to conduct descriptive and discriminant analyses on all preliminary items.

Table 1. Item Analysis Standards [17]

Criterion	Standard Value
Critical ratio	\$ \$3.000
Item-total correlation	\$ \$0.400
Corrected item-total correlation	\$ \$0.400
Cronbach's α if item deleted	\leq scale α
Commonality	\$ \$0.20
Factor loading	\$ \$0.45

3.3.1 Descriptive Analysis Skewness and Kurtosis: Most scale items should follow a normal distribution. Following R.B. Kline's research [18], items with absolute skewness >3 and absolute kurtosis >10 were flagged for elimination.

3.3.2 Discriminant Analysis Extreme Groups Method: The top 27% and bottom 27% of total scores were selected to form high and low groups, respectively. Independent samples t-tests were conducted to compare mean differences. The critical value for extreme group comparison was set at 3.000; values below this indicated poor discriminant power.

Item-Total Correlation: Two types of item-total correlations were examined: uncorrected (item with total including itself) and corrected (item with total excluding itself). The standard coefficient was set at 0.400; values below this indicated low correlation with the total score.

Homogeneity Test: Scales measuring the same dimension should have high internal consistency, typically indicated by Cronbach's α coefficient. If deleting an item did not change or increased the α coefficient, the item should be considered for elimination.

3.3.3 Analysis Results Item analysis results are shown in Table 2 . Twenty items failing to meet criteria were eliminated, retaining 26 items.

3.4 Factor Analysis

3.4.1 Feasibility Test for Factor Analysis Feasibility was assessed using KMO test and Bartlett's sphericity test. KMO values approaching 1 indicate stronger inter-variable correlations and greater suitability for factor analysis. Larger Bartlett's test statistics with lower significance levels suggest greater likelihood of factor structure existence. Results are shown in Table 2:

Table 2. KMO and Bartlett's Test Results

Test	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.895
Bartlett's Test of Sphericity	3398.354
Significance	0.000

According to statistician H.F. Kaiser's criteria, average communality should preferably exceed 0.7, or 0.6 if sample size >250 [17]. The KMO value of 0.895 indicates good factor analysis suitability. Bartlett's test value of 3398.354 with significance level of 0.000 meets significance criteria, confirming suitability for factor analysis.

3.4.2 Exploratory Factor Analysis Exploratory factor analysis was conducted on the retained 26 items using principal component analysis to extract common factors and form a factor loading matrix. To identify an optimal factor structure, the study aimed to retain 3-6 items per factor with approximately 20 total items through iterative testing, ultimately retaining 16 items.

Factor analysis on the final 16 items yielded $KMO = 0.848$ and Bartlett's test = 1759.451 ($p = 0.000$), indicating common factors among the 16 items and suitability for factor analysis. A scree plot was used to determine the number of factors based on curve inflection points. As shown in Figure 1 [Figure 1: see original paper], four factors fell on the steep slope with eigenvalues >1 ; from the fourth factor onward, the slope flattened, suggesting no additional special factors worth extracting. Thus, retaining four factors was appropriate.

Principal component analysis results are shown in Table 3 :

Table 3. Total Variance Explained (Partial)

Factor	Initial Eigenvalues	Extraction Sums of Squared Loadings	Rotation Sums of Squared Loadings
1	4.770	29.813%	29.813%
2	1.798	11.234%	41.048%
3	1.399	8.745%	49.793%
4	1.052	6.574%	56.367%

Table 3 shows that four key factors were extracted, cumulatively explaining 56.367% of variance, which is acceptable [17]. Orthogonal rotation using Kaiser normalization with varimax rotation was applied, yielding the rotated component matrix shown in Table 4 :

Table 4. Rotated Component Matrix

Item	Factor 1	Factor 2	Factor 3	Factor 4
ZSB15	-0.001	-0.083	-0.126	-0.062
BJXB11	-0.008	-0.006	-0.083	-0.062
BJXB28	-0.083	-0.006	-0.083	-0.062
BJXB5	-0.126	-0.083	-0.083	-0.062
ZSB24	-0.062	-0.126	-0.083	-0.062
GYB13	-0.001	-0.083	-0.126	-0.062
ZSB33	-0.008	-0.006	-0.083	-0.062
SSXB8	-0.083	-0.006	-0.083	-0.062
QGB46	-0.126	-0.083	-0.083	-0.062
QGB16	-0.062	-0.126	-0.083	-0.062
QGB12	-0.001	-0.083	-0.126	-0.062
ZYZLB20	-0.008	-0.006	-0.083	-0.062
ZYZLB30	-0.083	-0.006	-0.083	-0.062
ZYZLB27	-0.126	-0.083	-0.083	-0.062
ZYZLB23	-0.062	-0.126	-0.083	-0.062

Note: Extraction method: Principal Component Analysis; Rotation method: Varimax with Kaiser Normalization; Rotation converged in 6 iterations.

The results show a clear four-factor structure with relatively even item distribution, each arranged by factor loading magnitude. Considering the impact of item deletion in statistical analysis and referencing domestic and international literature, a few items were added to the emotion, resource quality, and resource access dimensions to form the final scale for further measurement.

3.5 Factor Naming and Interpretation

Based on factor analysis results, the measurement factors were adjusted and named:

- **Factor 1: Library Literacy** (5 items) - Refers to readers' cognitive understanding of library functions, their experience and familiarity with library use, and their ability to effectively utilize library resources.
- **Factor 2: Emotion** (3 items) - Refers to readers' emotional responses and cognitive awareness of subjective feelings during library use.
- **Factor 3: Resource Quality** (4 items) - Refers to readers' perceptions of the quality of various resources provided by the library.
- **Factor 4: Resource Access** (4 items) - Refers to readers' perceptions of methods and overall environment for accessing library resources, and their evaluation of convenience and efficiency in resource acquisition.

4. Empirical Analysis of Library Anxiety

4.1 Survey Questionnaire

The questionnaire comprised three sections: instructions, personal basic information, and the main survey (28 items total). Personal information covered demographic characteristics and reading behaviors (7 items). The main section used the revised Library Anxiety Scale with 4 dimensions (library literacy, emotion, resource quality, resource access) and 21 items.

4.2 Questionnaire Distribution and Collection

The survey was administered in two high-traffic public reading areas at the National Library of China from May 23 to May 31, 2016 (9 days). A total of 440 questionnaires were distributed, with 398 returned. After eliminating 6 invalid questionnaires, 392 valid questionnaires were obtained (89.09% valid response rate). Participants ranged from 16 to 83 years old, including 190 males and 202 females.

4.3 Reliability and Validity Testing

4.3.1 Reliability Analysis Cronbach's α coefficient measures internal consistency reliability, commonly used for Likert scales. Higher α coefficients indicate better internal consistency. Table 5 shows the reliability results:

Table 5. Reliability Statistics

Dimension	Cronbach's α
Library Literacy	0.756
Emotion	0.676
Resource Quality	0.653
Resource Access	0.871
Total Scale	0.871

In applied and validation research, reliability coefficients are preferably above 0.80, with above 0.90 being optimal [21]. Subscale α coefficients of 0.6 are acceptable [22]. The resource quality ($\alpha = 0.676$) and resource access ($\alpha = 0.653$) constructs are within acceptable ranges, while other constructs exceed 0.70, demonstrating good reliability. The total scale α coefficient of 0.871 indicates excellent reliability.

4.3.2 Validity Testing Validity refers to the degree to which measurements are effective. This study examined content validity and construct validity.

Content Validity refers to how well test items represent the content domain. This scale was developed based on existing English and Chinese library anxiety scales. Before distribution, frontline library experts and librarians reviewed the questionnaire design to ensure content validity.

Construct Validity refers to the correspondence between measurement results and theoretical structure. Correlation analysis and confirmatory factor analysis were used. Correlation analysis results (Tables 6 and 7) show significant correlations between each item and total score, and among dimensions and with the total scale, indicating good construct validity.

Table 6. Correlation Between Items and Total Scale

Item	Correlation
HQB12	0.459**
QGB13	0.413**
ZLB14	0.463**
HQB15	0.725**
HQB16	0.515**
HQB17	0.606**
QGB18	0.816**
QGB19	0.603**
SYB20	0.787**
HQB21	0.852**
ZLB11	0.592**
SYB10	0.500**

Table 7. Correlation Among Dimensions and with Total Scale

Dimension	Library Literacy	Emotion	Resource Quality	Resource Access	Total
Library Literacy	1				
Emotion	0.495**	1			
Resource Quality	0.584**	0.564**	1		
Resource Access	0.582**	0.483**	0.530**	1	
Total Scale	0.587**	0.644**	0.541**	0.481**	1

*Note: ** indicates significant correlation at the 0.01 level (two-tailed).*

Confirmatory Factor Analysis (CFA) is commonly used in psychological research to test relationships between observed variables and latent factors, allowing researchers to verify hypothesized measurement structures [23]. This study used Amos 21.0 with maximum likelihood estimation to assess model fit. As shown in Figure 2 [Figure 2: see original paper], the model converged with positive residual variances and no improper parameter estimates.

The model fit indices were: $\chi^2 = 523.984$ ($p = 0.000$), $df = 183$, $\chi^2/df = 2.863$ (acceptable). Goodness-of-Fit Index (GFI) and Adjusted GFI were 0.885 and 0.855 respectively, not meeting the >0.90 absolute fit standard. Root Mean Square Error of Approximation (RMSEA) was 0.069 (reasonable fit). Root Mean Square Residual (RMR) was 0.076 (moderate fit). Overall, the hypothesized factor structure was within acceptable ranges, with construct validity meeting expectations for further analysis.

5. Analysis of Measurement Results

5.1 Overall Status of Reader Anxiety

The mean library anxiety score for the sample was 2.73, indicating moderate-low anxiety levels among public library readers. Anxiety levels varied across dimensions. As shown in Table 8, readers experienced higher anxiety in resource access ($M = 3.01$) and resource quality ($M = 2.83$), and lower anxiety in library literacy ($M = 2.56$) and emotion ($M = 2.47$). This demonstrates that library anxiety is prevalent among public reading context users.

Table 8. Anxiety Levels by Dimension

Dimension	Mean	SD
Library Literacy	2.56	0.87
Emotion	2.47	0.92
Resource Quality	2.83	0.95
Resource Access	3.01	1.12

5.2 Analysis of Influencing Variables

5.2.1 Demographic Variables (1) Gender: No significant differences were found across dimensions or total scores (Table 9), indicating no significant gender differences in library anxiety levels.

Table 9. Independent Samples T-Test for Gender

Dimension	t-value	p-value
Library Literacy	0.119	0.866
Emotion	0.067	0.188
Resource Quality	0.023	0.644
Resource Access	0.054	0.286
Total Scale	0.049	0.330

(2) Age: Age was divided into six groups (\$ \$18, 19-29, 30-39, 40-49, 50-64, \$ \$65) based on relevant research [24] and practical considerations. Table 10 shows no significant correlation between age and library anxiety dimensions or total score.

Table 10. Correlation Between Age and Library Anxiety

Dimension	Pearson r	p-value
Library Literacy	-0.038	0.457
Emotion	0.065	0.197
Resource Quality	0.050	0.320
Resource Access	-0.057	0.261
Total Scale	-0.005	0.923

(3) Education Level: Table 11 shows a negative correlation ($r = -0.049$) between education level and total anxiety, indicating higher education is associated with lower anxiety.

Table 11. Correlation Between Education Level and Library Anxiety

Dimension	Pearson r	p-value
Library Literacy	-0.009	0.866
Emotion	-0.067	0.188
Resource Quality	-0.023	0.644
Resource Access	-0.054	0.286
Total Scale	-0.049	0.330

5.2.2 Library Visit Variables (1) Visit Purpose: Purposes were categorized into five types: research/database use, self-study, attending lectures/exhibitions, casual browsing, and social/other activities. Correlation analysis (Table 12) showed no significant relationship between visit purpose and anxiety scores.

Table 12. Correlation Between Visit Purpose and Library Anxiety

Dimension	Pearson r	p-value
Library Literacy	0.004	0.931
Emotion	0.047	0.354
Resource Quality	-0.016	0.745
Resource Access	0.051	0.311
Total Scale	0.029	0.561

(2) Visit Frequency: Frequency was divided into five groups: first visit, \leq once per 6 months, \geq once per month, \geq once per week, and other (primarily “almost daily”). Table 13 shows significant negative correlations between visit frequency and total anxiety ($p < 0.01$) and with library literacy and emotion dimensions, indicating that more frequent visitors experience significantly lower anxiety.

Table 13. Correlation Between Visit Frequency and Library Anxiety

Dimension	Pearson r	p-value
Library Literacy	-0.119*	0.018
Emotion	-0.136**	0.007
Resource Quality	-0.009	0.861
Resource Access	-0.058	0.253
Total Scale	-0.102*	0.044

*Note: ** indicates significant correlation at the 0.01 level (two-tailed); * indicates significant correlation at the 0.05 level (two-tailed).*

6. Discussion and Recommendations

Survey data confirm that public library readers experience moderate-low levels of library anxiety, with highest anxiety in resource access and lowest in emotion. Readers with different educational backgrounds and visit frequencies show varying anxiety levels across dimensions. Scientific measurement of reader anxiety in public reading contexts is therefore objectively necessary. Based on scale revision and empirical research, this study concludes:

(1) Rigorous scale revision tailored to research context. To date, Chinese scholars have developed or revised library anxiety scales exclusively for

university library contexts, with some indicators unsuitable for public reading situations. The lengthy scales also hinder large-scale data collection in public libraries. Developing a measurement system appropriate for public reading contexts is therefore essential.

Public reading contexts differ significantly from university libraries. This study considered three aspects in scale development: (a) Optimizing item wording for diverse age groups and educational backgrounds to ensure clarity and conciseness; (b) Scientifically compressing scale length to accommodate high traffic and diverse reading behaviors, retaining only the most representative and valuable items; (c) Including reverse-scored items to enrich response formats and avoid response bias. Due to item deletion and factor extraction, the final structure differed from initial assumptions. Expert feedback guided secondary revisions, and confirmatory factor analysis verified the factor structure, ensuring good content and construct validity. Internal consistency coefficients confirmed strong reliability.

(2) Readers' limited library knowledge and significant individual service needs. Readers show high anxiety about locating materials quickly, though with low data dispersion, indicating widespread unfamiliarity with library collections and regulations. To improve library literacy, libraries should conduct reader training and targeted small-group lectures for different needs and levels, similar to university library practices. Frontline experience shows that anxiety arises when readers encounter obstacles meeting their needs. Therefore, libraries should increase prominent signage and provide targeted guidance on resource utilization and access to improve public reading service effectiveness.

Readers show large individual differences in emotional cognition of librarians. Anxiety may stem from considerations of travel convenience, distance, time constraints, unfamiliarity with library use, overcrowding, or previous negative experiences—requiring further investigation. Age group comparisons show that middle-aged readers (30-45 years) are a primary audience with strong reading purposes, often conducting work or research tasks under time constraints. When target materials are unavailable or difficult to access, this group is prone to anxiety. Higher education levels correlate with significantly lower anxiety, likely due to greater library familiarity, deeper cognitive understanding, and broader knowledge bases reducing situational emotional responses. Visit frequency shows significant negative correlation with anxiety, as frequent visitors better understand library systems, workflows, and services.

Libraries should adopt internet thinking, emphasizing reader experience and humanistic services. Establishing online and offline reader communities can enhance communication among readers and between readers and staff, increasing engagement. Different reading rooms should adopt distinct designs and service emphases based on reader characteristics. Librarians must embrace a “reader-centered” service philosophy, providing personalized and emotional services that strengthen humanistic care and create more pleasant reading experiences.

(3) Establishing “trial reading” services to improve public reading effectiveness. High anxiety in resource quality primarily stems from slow book updates and inconvenient catalog searching. While cataloging and processing are unavoidable, libraries can cooperate with other institutions to establish “trial reading” services, enhancing readers’ experience with new books.

References

- [1] Che Wenbo. *New Dictionary of Contemporary Western Psychology* [M]. Changchun: Jilin People’s Publishing House, 2001.
- [2] MELLON C A. Library anxiety: a grounded theory and its development [J]. *College & research libraries*, 1986, 47(2): 160-165.
- [3] JIAO Q G, ONWUEGBUZIE A J, LICHTENSTEIN A A. Library anxiety: characteristics of ‘at-risk’ college students [J]. *Library & information science research*, 1996, 18(2): 151-163.
- [4] SWOPE M J, KATZER J. Why don’t they ask questions [J]. *Reference quarterly*, 1972(2): 161-166.
- [5] Onwuegbuzie, Jiao, Bostick. *Library Anxiety: Theory, Research, and Application* [M]. Translated by Wang Xirong. Beijing: Ocean Press, 2015: 31-32.
- [6] ANTELL K. Why college students use libraries [J]. *Reference & user services quarterly*, 2004, 43(3): 227-236.
- [7] BOSTICK S L. The development and validation of the library anxiety scale [D]. Detroit: Wayne State University, 1992.
- [8] JIAO Q G, ONWUEGBUZIE A J. Prevalence and reasons for university library usage [J]. *Library review*, 1997, 46(6): 411-420.
- [9] SHOHAM S, MIZRACHI D. Library anxiety among undergraduates: a study of Israeli B.Ed students [J]. *Journal of academic librarianship*, 2001, 27(4): 305-319.
- [10] VAN KAMPEN D J. Library anxiety, the information search process and doctoral use of the library [D]. Florida: The University of Central Florida, 2003.
- [11] ANWAR M A, AL-KANDARI N M, AL-QALLAF C L. Use of Bostick’s library anxiety scale on undergraduate biological sciences students of Kuwait University [J]. *Library and information science research*, 2004, 26(2): 266-283.
- [12] SWIGON M. Library anxiety among Polish students: development and validation of the Polish library anxiety scale [J]. *Library and information science research*, 2011, 33(2): 144-150.
- [13] He Wei. *Revision and Application Research of the Library Anxiety Scale* [D]. Changchun: Jilin University, 2006.
- [14] Song Zhiqiang, Xue Yu, Zhao Wei. Construction and empirical research of the library anxiety scale [J]. *Library and Information Service*, 2011, 55(15): 77-81.
- [15] Song Zhiqiang. *Research on Library Anxiety and Its Influencing Factors Among Chinese University Students* [D]. Tianjin: Nankai University, 2014.
- [16] Wan Yunfang, Jia Shumin, Feng Sujie, et al. Measurement and analysis

of library anxiety among university students in Beijing—based on revision and validation of the library anxiety scale [J]. *Journal of Academic Libraries*, 2015(3): 12-21.

[17] Wu Minglong. *Questionnaire Statistical Analysis Practice—SPSS Operation and Application* [M]. Chongqing: Chongqing University Press, 2010: 192, 207, 232.

[18] KLINE R B. *Principles and Practice of Structural Equation Modeling* [M]. New York: The Guilford Press, 1998.

[19] Zhao Bihua. *Scale Development and Measurement Equivalence Testing—Based on the Middle School Students' Self-Concept Scale* [M]. Hefei: Anhui Normal University Press, 2013: 51.

[20] Chen Zhengchang. *SPSS and Statistical Analysis* [M]. Beijing: Educational Science Publishing House, 2015: 508.

[21] NUNNALLY J C, BERNSTEIN I H. *Psychometric Theory* [M]. 3rd ed. New York: McGraw-Hill, 1994: 501.

[22] Liu Dahai, Li Ning, Chao Yang. *SPSS 15.0 Statistical Analysis—From Entry to Mastery* [M]. Beijing: Tsinghua University Press, 2008: 349.

[23] Wu Minglong. *Structural Equation Modeling—AMOS Operation and Application* [M]. Chongqing: Chongqing University Press, 2009: 212-213.

[24] TRUELSEN T, BEGG S, MATHERS C. The global burden of cerebrovascular disease [EB/OL]. [2017-11-13]. http://www.who.int/healthinfo/statistics/bod_{{{cerebrovascular}}}{disea

Revision and Verification of Library Anxiety Scale Under Public Reading Circumstances

Yang Jing

National Library of China, Beijing 100081

Abstract: [Purpose/significance] Library anxiety has negative effects on the effective use of the library. The research aims to explore readers' library anxiety and its influencing factors, in order to enhance quality and efficiency of readers' service. [Method/process] With literature survey, questionnaire, and mathematical statistics method, the research revises Library Anxiety Scale under public reading circumstances. The research uses the revised scale which has good reliability and validity to explore readers' library anxiety from 4 dimensions including library literacy, emotion, and resources quality and resources access. [Result/conclusion] The result shows that readers' library anxiety is at medium-low level. Readers experience the highest level of library anxiety in the dimension of resources access. Readers' age, education, the frequency of library usage are related to the level of library anxiety. Based on the results, this research proposes to conduct reader training, strengthen humanized services, promote mobile queries and improve guidance signs to relieve readers' anxiety from all dimensions.

Keywords: library anxiety; public reading; scale revise

Note: Figure translations are in progress. See original paper for figures.

Source: ChinaXiv — Machine translation. Verify with original.