

Research Article

Optimizing Questionnaire Reliability and Validity for a Study on Drumming Motivation

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Abstract

This study optimized a questionnaire assessing motivation for participation in a 24-Festival Drums performance, ensuring strong structural validity and reliability. Initially, the Kaiser-Meyer-Olkin (KMO) value was 0.503, indicating that the data was unsuitable for factor analysis. Through systematic improvements, including the removal of low Measure of Sampling Adequacy (MSA) items, refinement of question wording, Principal Component Analysis (PCA), and Varimax rotation, the KMO value improved to 0.821, and Bartlett's test of sphericity remained significant ($p < 0.001$), confirming that factor analysis was appropriate. The initial factor analysis extracted three factors, but cross-loadings suggested an unclear structure. Further refinements, including deleting low-loading and reliability-impacting items, resulted in a final structure of two factors, named "Interest & Participation Motivation" and "Performance Recognition & Achievement." The total variance explained reached 78.759%, indicating strong explanatory power. Reliability analysis showed Cronbach's Alpha of 0.949, confirming excellent internal consistency. In conclusion, this study successfully optimized a robust questionnaire with high reliability and validity, providing a solid foundation for future research on motivation in 24-Festival Drumming participation. Further studies can explore variations in drumming motivation across different groups and apply regression analysis or Structural Equation Modeling (SEM) to examine relationships between factors in greater depth.

Keywords

Motivation, 24-Festival Drumming, Questionnaire Validation, Factor Analysis, Reliability & Validity

1. Introduction

The 24-Festival Drums (二十四节令鼓) is a cultural creation of the Malaysian Chinese community, co-developed by the late artist Chen Huichong and poet Chen Zaifan in 1988 [1]. This unique form of drum performance is deeply rooted in Malaysia and has also gained international recognition. In 2009, more than two decades after its inception, the performance of 24-Festival Drumming was recognized as an intangible cultural heritage of Malaysia. [1, 2].

Ethnic identity development significantly affects psycho-

logical well-being, including self-esteem. Phinney asserted that a strong, positive ethnic identity is linked to higher self-esteem and life satisfaction. Individuals who embrace their cultural heritage feel a greater sense of belonging [3]. Besides, the willingness to participate in the drumming activity is also fueled by intrinsic motivation [4]. For a deeper understanding, the researcher studied how these factors affect institute students' willingness to participate in the 24-Festival Drumming performance organized by the Chi-

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nese Language Society of the Gaya Campus, Institute of Teacher Education Malaysia. Henceforth, a well-constructed questionnaire is essential for gathering reliable and valid data in research.

This study was conducted using a questionnaire called the “24-Festival Drumming Interest Survey.” The questionnaire, which was created in Google Forms, was distributed to the 24 Festival Drumming team members of the Institute of

Teacher Education Malaysia. Fifty-five students volunteered to answer the questionnaire, which was distributed through a Google link from 23 to 25 November 2024. Initially, the questionnaire, consisting of 20 items, was administered to assess the level of agreement. The questionnaire underwent a factor analysis, extracting five principal components (factors). From the Rotated Component Matrix, Table 1 shows how each item is assigned to different factors.

Table 1. The Assignment of Items to Factors

| Item No. | Highest Loading | Factor | Item Description |
|----------|-----------------|---|---|
| Factor 1 | | Interest & Participation | |
| 2 | .777 | Factor 1 | Joined the drum team purely out of interest |
| 3 | .899 | Factor 1 | Has a strong interest in learning drumming skills |
| 4 | .617 | Factor 1 | Enjoys the cultural aspects of the 24-Festival Drums |
| 5 | .621 | Factor 1 | Enjoys the performance aspect of the 24-Festival Drums |
| 6 | .778 | Factor 1 | Finds practice sessions exciting and anticipates them |
| 10 | .752 | Factor 1 | Manages time well and fully enjoys drumming |
| 11 | .834 | Factor 1 | Receives moral support from the lecturer |
| Factor 2 | | Performance & Recognition | |
| 17 | .905 | Factor 2 | Considers the 24-Festival Drums performance the highlight of the event |
| 18 | .863 | Factor 2 | The drum team's performance was highly appreciated by the audience |
| 19 | .832 | Factor 2 | Feeling satisfied with their own performance in the event |
| 20 | .525 | Factor 2 | Feels drumming skills improved due to the audience's appreciation |
| Factor 3 | | Economic & Resource Factors | |
| 9 | .638 | Factor 3 | Believes drumming practice does not affect academic performance |
| 13 | .825 | Factor 3 | Would be more motivated to practice if financially supported by the institution |
| 14 | .644 | Factor 3 | Believes a good coach is key to a successful drum team performance |
| Factor 4 | | Time Management & Academic Burden | |
| 7 | .899 | Factor 4 | Feels that college life is very busy |
| 8 | .837 | Factor 4 | Often feels there is not enough time |
| Factor 5 | | Decision to Join & Instructor Influence | |
| 1 | -.685 | Factor 5 | Joined the drum team only to perform in “Hongbao Gala” |
| 15 | .769 | Factor 5 | Would only join the drum team if there was a good coach |

The level of agreement of each respondent was assessed using a 10-point Likert scale, from point 1, interpreted as “Strongly Disagree,” to point 10, interpreted as “Strongly Agree.”

2. Research Objectives

This study aims to optimize a questionnaire assessing the motivation behind participation in 24-Festival Drumming, ensuring strong structural validity and reliability. The study seeks to answer two key research questions: (1) How can fac-

tor analysis and reliability testing enhance the validity and consistency of a questionnaire measuring drumming motivation? (2) What key motivational factors influence participation in 24-Festival Drumming, as identified through factor analysis?

3. Materials and Methods

This study employed a quantitative research design using exploratory factor analysis (EFA) to refine and validate the questionnaire, i.e., the 24-Festival Drumming Interest Survey. By using the software of Statistical Package for Social Sciences (SPSS), the process involved systematic refinement, including factor analysis, reliability testing, and item reduction, to enhance the overall effectiveness of the instrument, which involved three phases of analysis.

3.1. Initial Assessment

At the outset, the questionnaire exhibited a Kaiser-Meyer-Olkin (KMO) value of 0.503, indicating insufficient sampling adequacy for factor analysis. [5-8] Additionally, Bartlett's test of sphericity was significant ($p < 0.001$) Table 2, suggesting that factor analysis could still be conducted.

Table 2. Initial KMO and Bartlett's Test.

| | | |
|--|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .503 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 1367.935 |
| | df | 190 |

Sig. .000

Table 3. Initial Reliability Statistics.

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| .867 | .901 | 20 |

Table 3 presents Cronbach's Alpha, a measure of internal consistency that evaluates how well the items in a questionnaire are correlated and measure the same construct. The test was conducted on 20 questionnaire items, meaning the overall reliability score is based on the internal consistency among these 20 items. Cronbach's Alpha (0.867 - 0.901) confirms that the questionnaire is highly reliable [9-12], making it a valid tool for research. However, the low KMO value (0.503) indicated the presence of weak correlations among some items, necessitating improvements.

3.2. Item Refinement and Factor Analysis

The researcher systematically removed items with low Measure of Sampling Adequacy (MSA) scores to improve construct validity and revised unclear wording. Principal Component Analysis (PCA) was conducted with Varimax rotation [13] to clarify factor loadings. The pre-final factor analysis extracted three factors, but two items exhibited cross-loadings, compromising the clarity of the constructs Table 4.

Table 4. Rotated Component Matrix^a.

| | Component | | |
|--|-----------|------|------|
| | 1 | 2 | 3 |
| 2. I joined the 24 Festive Drums team purely out of personal interest. | .688 | .362 | .461 |
| 3. I am highly interested in learning the drumming techniques of the 24 Festive Drums. | .881 | .284 | .244 |
| 4. I greatly appreciate the cultural elements of the 24 Festive Drums. | .763 | .338 | .238 |
| 5. I truly enjoy the performance aspects of the 24 Festive Drums. | .801 | .236 | .201 |
| 6. I look forward to each practice or rehearsal session with excitement. | .790 | .276 | .407 |
| 9. Practicing with the 24 Festive Drums team does not negatively impact my academic studies. | .165 | .064 | .929 |
| 10. I manage my time well, which allows me to enjoy drum practice to the fullest. | .667 | .117 | .621 |
| 11. My lecturer provides emotional or moral support for my drumming activities. | .810 | .261 | .024 |
| 12. Encouragement from lecturers plays an important role in keeping me motivated to continue drumming. | .463 | .525 | .421 |
| 16. If an official 24 Festive Drums team is established at Gaya Teacher's College, I would | .356 | .450 | .693 |

| | Component | | |
|--|-----------|------|------|
| | 1 | 2 | 3 |
| immediately sign up. | | | |
| 17. On the day of the “Hongbao Gala” performance, I felt the 24 Festive Drums segment was the most impressive. | .126 | .928 | .199 |
| 18. The audience responded very positively to the 24 Festive Drums team’s performance. | .285 | .917 | .154 |
| 19. I am satisfied with my personal performance in the 24 Festive Drums team during the “Hongbao Gala.” | .327 | .851 | .186 |
| 20. Positive feedback from others has helped me improve my drumming skills. | .323 | .684 | .008 |
| Extraction Method: Principal Component Analysis. | | | |
| Rotation Method: Varimax with Kaiser Normalization. ^a | | | |
| a. Rotation converged in 5 iterations. | | | |

The rotated component matrix indicates that each item has a high loading on a specific factor, with a loading of ≥ 0.6 generally considered acceptable [7, 8, 10]. Categorizing items into different factors helps define the themes of each factor Table 5.

Table 5. Factor Structure and Item Categorization.

| Factor | Item assignment | Possible factor name |
|----------|------------------------|---------------------------------------|
| Factor 1 | 2, 3, 4, 5, 6, 11, 12, | Interest & Motivation |
| Factor 2 | 17, 18, 19, 20 | Performance Recognition & Achievement |
| Factor 3 | 9, 10, 16 | Study Balance & Future Participation |

Factor 1: Interest & Motivation (Items: 2, 3, 4, 5, 6, 11, 12)

These items primarily reflect interest in the 24 Festive Drums, commitment level, and practice anticipation. For example, “*I am highly interested in learning the drumming techniques of the 24 Festive Drums*” (Item 3) has a loading of 0.881, and “*My lecturer provides emotional or moral support for my drumming activities*” (Item 11) has a loading of 0.810. This factor represents intrinsic interest in the drum team, including appreciation of its cultural and artistic aspects, as well as motivation reinforced by the lecturer’s support.

Factor 2: Performance Recognition & Achievement (Items: 17, 18, 19, 20)

These items reflect satisfaction from performing, external recognition, and a sense of personal accomplishment. For instance, Item 17, “*On the day of the “Hongbao Gala” performance, I felt the 24 Festive Drums segment was the most impressive*”, has a loading of 0.928, and Item 18 “*The audience responded very positively to the 24 Festive Drums team’s performance*”, has a loading of 0.917. This factor

reflects post-performance feedback and self-achievement, emphasizing external recognition (audience feedback) and internal satisfaction (sense of success in performance).

Factor 3: Study Balance & Future Participation (Items: 9, 10, 16)

This factor reflects the balance between drumming and academic responsibilities, as well as the willingness to participate in future activities. For example, Item 9, “*Practicing with the 24 Festive Drums team does not negatively impact my academic studies*”, has a loading of 0.929. This factor highlights time management skills for balancing academics and drumming, as well as students’ willingness to continue participating in the drum team in the future.

This categorization helps define the thematic constructs underlying the questionnaire, ensuring a clear factor structure for analysis. All items have loadings ≥ 0.5 , [6-8] indicating that no items need to be removed based on the loading criteria. However, a potential issue can be seen, i.e., cross-loading items. Item 10 (*I manage my time well, which allows me to enjoy drum practice to the fullest*) has loadings on both Factor 1 (0.667) and Factor 3 (0.621). Table 4. This suggests whether the item fits under Factor 1 or needs to be rephrased to align more clearly with a single factor, e.g. “*I can manage my time properly and find a balance between my studies and the drum team.*”

3.3. Reliability Testing

A reliability analysis was also conducted to verify the questionnaire's internal consistency. Cronbach’s Alpha was computed for the questionnaire after removing all the items that do not fit either factor or contribute no more precise factor assignment. The Alpha value of 0.927 in Table 6 indicates a high level of internal consistency [11], demonstrating that the items are strongly correlated and effectively measure the intended construct with excellent reliability.

Table 6. Reliability Statistics.

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| .927 | .934 | 17 |

Most items correlate > 0.5 , indicating strong consistency with the overall questionnaire. Three items have low correlation. **Table 7.**

Item 13 (0.361) \rightarrow Below 0.5, indicating low correlation.

Item 14 (0.338) \rightarrow Low correlation, may not be suitable for the questionnaire.

Item 15 (0.201) \rightarrow Extremely low correlation, recommended for removal.

Table 7. Item-Total Statistics.

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|---|----------------------------|--------------------------------|----------------------------------|------------------------------|----------------------------------|
| 2. I joined the 24 Festive Drums team purely out of personal interest. | 137.31 | 452.551 | .853 | .969 | .918 |
| 3. I am highly interested in learning the drumming techniques of the 24 Festive Drums. | 137.55 | 437.919 | .839 | .959 | .917 |
| 4. I greatly appreciate the cultural elements of the 24 Festive Drums. | 137.13 | 469.002 | .785 | .981 | .921 |
| 5. I truly enjoy the performance aspects of the 24 Festive Drums. | 137.13 | 464.261 | .730 | .975 | .921 |
| 6. I look forward to each practice or rehearsal session with excitement. | 138.02 | 438.166 | .871 | .935 | .916 |
| 9. Practicing with the 24 Festive Drums team does not negatively impact my academic studies. | 138.16 | 462.880 | .507 | .978 | .927 |
| 10. I manage my time well, which allows me to enjoy drum practice to the fullest. | 138.35 | 441.786 | .748 | .976 | .920 |
| 11. My lecturer provides emotional or moral support for my drumming activities. | 137.65 | 459.601 | .637 | .958 | .923 |
| 12. Encouragement from lecturers plays an important role in keeping me motivated to continue drumming. | 137.36 | 468.384 | .755 | .904 | .921 |
| 13. Receiving financial support from the college would increase my motivation and enjoyment in drum practice. | 136.42 | 507.581 | .361 | .917 | .929 |
| 14. A skilled coach is the key factor in the success of the drum team's performances. | 136.93 | 489.143 | .338 | .837 | .930 |
| 15. I would be more willing to join the drum team if a good coach were available. | 137.62 | 493.870 | .201 | .694 | .937 |
| 16. If an official 24 Festive Drums team is established at Gaya Teacher's College, I would immediately | 138.18 | 440.040 | .767 | .941 | .919 |

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|--|----------------------------|--------------------------------|----------------------------------|------------------------------|----------------------------------|
| sign up. | | | | | |
| 17. On the day of the “Hongbao Gala” performance, I felt the 24 Festive Drums segment was the most impressive. | 136.76 | 475.147 | .631 | .978 | .923 |
| 18. The audience responded very positively to the 24 Festive Drums team’s performance. | 136.78 | 473.840 | .734 | .988 | .922 |
| 19. I am satisfied with my personal performance in the 24 Festive Drums team during the “Hongbao Gala.” | 136.96 | 469.999 | .742 | .920 | .921 |
| 20. Positive feedback from others has helped me improve my drumming skills. | 137.40 | 467.059 | .574 | .736 | .925 |

The researcher removed Item 14 (*A skilled coach is the key factor in the success of the drum team’s performances*) and Item 15 (*I would be more willing to join the drum team if a good coach were available*) because both items signify the same problem, which is low correlation with reliability-impacting.

4. Results

Low-loading items have been removed to enhance the validity of the factor analysis as they contribute minimally to the construct measurement. Additionally, cross-loading items (10, 12) require modification or optimization to ensure they align more distinctly with a single factor, thereby improving the clarity of the factor structure. After these refinements, re-running the factor analysis will help determine whether

the KMO value improves, indicating stronger correlations among variables and a more stable factor solution.

After removing Items 13, 14 and 15, the KMO value increased from 0.507 to 0.775; Bartlett’s Test remains significant ($p < 0.001$), indicating stronger correlations among variables and a more robust factor analysis. This suggests that these items affected the data structure, and the removal further optimized the questionnaire. After optimisation, the latest rotated factor loading matrix now consists of only two factors Table 8, generally a positive outcome, indicating a clearer factor structure for the questionnaire. This also suggests that the previous three-factor model may have contained overlapping constructs. With the revised structure, the distribution of factor loadings is more distinct, making the theoretical framework of the questionnaire more stable.

Table 8. Rotated Component Matrix^a.

| | Component | |
|--|-----------|------|
| | 1 | 2 |
| 2. I joined the 24 Festive Drums team purely out of personal interest. | .833 | .356 |
| 3. I am highly interested in learning the drumming techniques of the 24 Festive Drums. | .910 | .270 |
| 4. I greatly appreciate the cultural elements of the 24 Festive Drums. | .743 | .401 |
| 5. I truly enjoy the performance aspects of the 24 Festive Drums. | .767 | .290 |
| 6. I look forward to each practice or rehearsal session with excitement. | .889 | .285 |
| 10. I manage my time well, which allows me to enjoy drum practice to the fullest. | .873 | .143 |
| 11. My lecturer provides emotional or moral support for my drumming activities. | .757 | .228 |

| | Component | |
|---|-----------|------|
| | 1 | 2 |
| 12. Encouragement from lecturers plays an important role in keeping me motivated to continue drumming. | .571 | .582 |
| 16. If an official 24 Festive Drums team is established at Gaya Teacher's College, I would immediately sign up. | .628 | .480 |
| 17. On the day of the "Hongbao Gala" performance, I felt the 24 Festive Drums segment was the most impressive. | .179 | .938 |
| 18. The audience responded very positively to the 24 Festive Drums team's performance. | .296 | .935 |
| 19. I am satisfied with my personal performance in the 24 Festive Drums team during the "Hongbao Gala." | .344 | .883 |
| Extraction Method: Principal Component Analysis. | | |
| Rotation Method: Varimax with Kaiser Normalization. ^a | | |
| a. Rotation converged in 3 iterations. | | |

The Total Variance Explained Table 9 indicates that two principal components were extracted based on Kaiser's Criterion (eigenvalues > 1). Component 1 has the highest eigenvalue (7.893) and explains 65.775% of the total variance, while Component 2 has an eigenvalue of 1.558, contributing 12.985% to the variance. Together, these two components account for 78.759% of the total variance, meaning they

capture most of the variability in the dataset [7, 8, 10, 14]. Components 3 to 12 have eigenvalues less than 1, indicating they explain minimal variance and were therefore excluded. The retained two-factor model ensures a simplified and efficient structure while preserving high explanatory power, making it suitable for further analysis.

Table 9. Total Variance Explained.

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 7.893 | 65.775 | 65.775 | 7.893 | 65.775 | 65.775 |
| 2 | 1.558 | 12.985 | 78.759 | 1.558 | 12.985 | 78.759 |
| 3 | .916 | 7.631 | 86.390 | | | |
| 4 | .584 | 4.865 | 91.256 | | | |
| 5 | .428 | 3.568 | 94.824 | | | |
| 6 | .209 | 1.739 | 96.563 | | | |
| 7 | .144 | 1.203 | 97.766 | | | |
| 8 | .102 | .851 | 98.617 | | | |
| 9 | .074 | .617 | 99.234 | | | |
| 10 | .041 | .341 | 99.574 | | | |
| 11 | .033 | .275 | 99.850 | | | |
| 12 | .018 | .150 | 100.000 | | | |

Extraction Method: Principal Component Analysis.

Further analysis revealed that removing low-loading and unreliable items improved the factor structure. After eliminating problematic items, the final solution identified two distinct factors:

1. Interest & Participation Motivation
2. Performance Recognition & Achievement

These two factors accounted for 78.759% of the total variance, indicating the questionnaire's strong explanatory power.

Extracting only two factors can be beneficial if the goal is to simplify the questionnaire and improve the clarity of factor distinctions, making the structure more concise and interpretable. If the "Study Balance & Future Participation" factor merged with either "Interest & Participation Motivation" or "Performance Recognition & Achievement," it suggests that participants perceive study balance as inherently linked to these aspects, making a separate factor unnecessary. However, if study-related questions are lost entirely, the research focus on the academic workload's impact on drumming practice may weaken. The final two-factor structure consists of Factor 1: Interest & Participation Motivation, which captures intrinsic interest, cultural identity, practice motivation, and lecturer support, and Factor 2: Performance Recognition & Achievement, which reflects post-performance satisfaction, audience feedback, and personal achievement. This refined structure maintains a strong conceptual foundation while ensuring clarity and practicality in analysis.

To ensure internal consistency, Cronbach's Alpha was computed for the final version of the questionnaire. The results showed a high reliability score of 0.949 [Table 10](#), confirming excellent internal consistency among the retained items. Moreover, the KMO value increased to 0.821, and Bartlett's Test is significant ($p < 0.001$), [Table 11](#) reinforcing the appropriateness of factor analysis [\[5-8\]](#) and the questionnaire's improved structure.

Table 10. Final Reliability Statistics.

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| .949 | .952 | 12 |

Table 11. Final KMO and Bartlett's Test.

| | | |
|--|--------------------|---------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .821 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 883.748 |
| | df | 66 |
| | Sig. | .000 |

5. Discussion

This study covers the process (methodology) and the outcome (motivational factors in drumming participation) in a structured manner. The final optimized questionnaire demonstrated high structural validity and reliability, making it a robust tool for assessing drumming motivation. The elimination of low-quality items and the refinement of factor structures enhanced both interpretability and accuracy. The extracted factors (1) Interest & Participation Motivation and (2) Performance Recognition & Achievement align well with theoretical frameworks in music motivation, cultural engagement, and performance psychology.

Cultural and social influence on musical participation. Social and cultural influences affect one's musical preferences [\[15\]](#). Drumming in the 24 Festive Drums context is a musical and cultural activity. If Lamont & Webb's study discusses how social and cultural factors shape musical preferences, it could provide a theoretical framework for understanding why individuals are drawn to drumming as a musical and cultural activity. Lamont & Webb's study explores how individuals form emotional bonds with music, which could parallel why drummers feel motivated to participate in the 24 Festive Drums. This aligns with the idea that drumming motivation could be driven by emotional fulfillment (Personal Experience) and personal identity (Cultural Identity) with the art form. This will point out the way for future research.

Furthermore, the researcher can use Self-Determination Theory (SDT) [\[4, 16\]](#) to analyze drumming motivation. Ryan and Deci's study on SDT provides a widely recognized framework for understanding human motivation, distinguishing between intrinsic and extrinsic motivation. Intrinsic motivation occurs when individuals engage in activities because they find them enjoyable, satisfying, or personally meaningful. At the same time, extrinsic motivation is driven by external rewards such as recognition, social approval, or financial incentives. Ryan and Deci's research highlights how these types of motivation influence behaviour, engagement, and long-term persistence in various activities. It provides a strong theoretical framework for understanding why drummers participate. For future studies, it helps interpret the factors influencing drumming motivation (e.g., personal interest, social connection, cultural identity) and to explain why some drummers persist in their involvement while others drop out.

6. Conclusions

This study successfully optimized a questionnaire for assessing drumming motivation by applying exploratory factor analysis (EFA) and reliability testing. The structured factor analysis explains the key motivational aspects influencing the participation in the 24-Festival Drumming.

The final instrument demonstrates strong psychometric properties, making it suitable for future research in music education, performance psychology, and cultural studies. Future studies could explore how these factors influence

participation and performance through regression analysis or Structural Equation Modeling (SEM).

Abbreviations

KMO Kaiser-Meyer-Olkin
STD Self-Determination Theory

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Author Contributions

Shiat Lu Wong is the sole author. The author read and approved the final manuscript.

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Data Availability Statement

The data supporting the outcome of this research work has been reported in this manuscript.

Conflicts of Interest

The author declares no conflicts of interest.

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