

Revision and Multiple Validity Verification of Self-Presentation Skills Assessment for Middle School Students

Weiwei Tong

Maharakham University, Thailand
Email: 63010563023@msu.ac.th

Prasong Saihong

Maharakham University, Thailand
Email: psaihong@hotmail.com

Kanyarat Sonsupap

Maharakham University, Thailand
Email: kanyarat.s@msu.ac.th

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Abstract

The main objective of this study is to revise and validate the assessment of self-presentation skills of middle school students. The assessment is based on existing self-assessment scales and adaptively modified for a more accurate assessment of middle school students' self-presentation skills. Considering the characteristics of middle school students and teachers' assessment, we have reconstructed and adjusted the dimensions of the original assessment. This paper includes background research, scale design and innovation, scale testing, and scale reliability and multiple validity verification. In order to further verify the effectiveness and reliability of the tool, this study added the application of content validity and factor analysis on the basis of previous studies. The results of this study are intended to compensate for the limitations of current teacher assessment for middle school students' self-presentation. At the same time, this study also provides a basis for the development of middle school students' self-presentation skills integrated training programs.

Keywords: Self-presentation skills; middle school students; assessment revision; multiple validity testing

Introduction

Globally, communication skills are becoming increasingly important in shaping the overall development of students. The initiative of the National Communication Association of the United States, which introduced various modes of debate and interview into teaching methods, has been replicated in countries such as the United Kingdom, Japan and Canada, all of which emphasize communication skills in their curricula (Ding & Qian 2003).

Communication skills are the most critical part of self-presentation skills, Self-presentation skills refer to expressing one's own qualities and achievements through direct verbal and non-verbal activities (Schlenker, 2012), emotions (Elizabeth W. Dunn, 2006), images (Tatyana A. Busygina, 2020), and other ways. In the process of interpersonal communication, individuals express their abilities, characteristics, achievements, and other aspects, aiming to give others a positive impression of themselves. By the 21st century, the People's Republic of China had shifted from a primary focus on "knowledge and skills" to fostering intrinsic "core qualities" in education. The Ministry's commitment to the Core Competency Framework, along with the emphasis on self-aware qualities introduced in 2017, underscores China's ambition to shape well-rounded individuals. This spirit develops individuals with a cultural foundation, the capacity for independent growth, and active social participation pervades the entire field of education. Central to this paradigm is self-presentation, which is a key tool for interpersonal goals and a reflection of personal characteristics and beliefs (Aloise-young, 1993).

In most countries, the research of self-presentation skills has been widely involved in the fields of politics, management, job hunting and the Internet, but the exploration of self-presentation skills of middle school students is relatively limited. In contrast, Chinese research is more about the collation and citations of external literature, especially the lack of empirical research in this field (Wang, 2020).

Numerous studies have pointed out that many students have difficulties in self-presentation, such as shyness, avoidance and anxiety, which not only limit their autonomous development, but also hinder their interaction in social situations (Baumeister & Hutton, 1987). Students' silence or non-participation may stem from concerns or shyness about self-presentation, leading them to avoid social interactions (Li, Zhang, Jiao & Jia, 2015). Wang (2020) points out in his work that middle school students often show their dependence on the external world and lack of self-confidence, and such an attitude will have a negative impact on their self-presentation skills if it exists for a long time.

Over the years, the field of self-presentation research has witnessed the evolution of various tools designed to measure an individual's propensity for self-presentation behavior. These pioneering tools include Snyder's self-monitoring assessment (1974), Crowne and Marlowe's Social Expectations Assessment (1964), and Fenigstein et al. 's self-awareness assessment (1975). Despite the importance of these tools, as observed by Lee et al. (1999), these tools lack the ability to pinpoint specific self-representation behaviors.

Roth and colleagues (1986,1988) built on previous research and introduced an assessment approach that divided self-presentation strategies into positive and negative domains (Roth, Harris, & Snyder, 1988; Roth, Snyder, & Pace, 1986). Taking Tedeschi's two-factor theory as a clue, Lee(1999) constructed a comprehensive assessment tool to clarify 12 different aspects of self-presentation strategies. Recognizing the unique nuances of self-presentation among college students, Yu, H.(2007) developed an assessment tailored to this population, containing 21 items spanning three main dimensions: impeccable self-improvement, hidden deficiencies, and undisclosed deficiencies. Moving further into the digital age, Fullwood and team (2016) pioneered online self-performance assessments (POSS), designed to capture people's perceptions of the authenticity of online personas.

Exploring further, Laghi et al. (2011) presented a valid self-presentation assessment for adolescents in the 16-19 age range, capturing many nuances of self-regulation, social sensitivity, and body image confidence. Inspired by this, Chen (2018) applied the tool to high school students, retained four factors of show confidence, self-regulation, social sensitivity and social openness.

While current self-presentation assessments capture individuals' self-presentation tendencies, they have significant limitations. Most of these assessments are based on self-assessments, may be influenced by respondents' subjective biases, and they do not capture specific types of self-presentation behavior. Therefore, the main purpose of this study is to design a comprehensive training plan for middle school students, emphasizing the adaptation and validation of the current self-presentation assessment, which is adjusted and modified based on the dimensions of Laghi et al. (2011) and Chen (2018), and constructed from the perspective of teacher assessment. In order to provide a more accurate measure of self-presentation skills for middle school students. Therefore, in view of the limitations of existing assessment tools and the particularity of middle school students' self-presentation skills, this study aims to further improve and verify the existing self-presentation skills assessment tools. The main objective is to conduct an in-depth scientific examination of the structure and content of the assessment tool by introducing content validity and conducting factor analysis. Specifically, content validity will help us ensure that the scale's entries truly and accurately reflect the various dimensions of self-presentation skills. To further explore and confirm the structure of the scale, we will use factor analysis, including exploratory factor analysis (EFA) to identify potential factor structures, and confirmatory factor analysis (CFA) to confirm pre-set factor structures and item loading. Both approaches will help ensure the structural stability of the assessment and the uniqueness of each factor. Through this supplementary research, we hope to provide a more scientific and reliable self-presentation skills assessment tool for middle school education, so as to better guide the training and practice of self-presentation skills for middle school students.

Research method

Design

In order to ensure the rationality of the method, we conducted a literature review on self-presentation skills and self-presentation assessment. On this basis, existing self-assessment tools have been revised to better fit the assessment perspectives of students and teachers. In order to further improve the content validity of assessment, the project objective alignment (IOC) method is adopted, that is, $IOC=R/N$. Experts from the fields of education and psychology were invited to assess the relevance, accuracy, and comprehensiveness of the projects. After a rigorous evaluation, five projects had an IOC value below the 0.75 threshold and were removed to ensure that the tool was simplified and only 20 projects were retained. The revised assessment tool was then implemented and tested in a select group of secondary school students. In order to ensure the stability and reliability of the structure, SPSS was used to analyze the reliability and validity of the data, and then factor analysis was conducted, including exploratory factor analysis and confirmatory factor analysis. With this approach, we hope to provide a multi-validated, scientifically reliable assessment tool for self-presentation skills in the field of secondary education.

Measure

To create an assessment of self-presentation skills appropriate for middle school students, this study selected three core dimensions from existing assessments by Laghi et al. (2011) and Chen (2018) : presentation confidence, social sensitivity, and social openness. Among them, "Showing confidence" combines the physical and social confidence proposed by Laghi et al. (2011). Chen (2018) combines these two aspects into a dimension called demonstrating confidence, which is also adopted in this study. However, the dimensions of social sensitivity and

social openness completely retain the contents of the original assessment by Laghi et al. (2011) and Chen (2018).

During the adaptation process, we adjusted the items in selected dimensions to better fit the context of the middle school student and the perspective of teacher assessment. The initial 25 projects were screened and optimized to 18. This research invite five experts in the fields of education and psychology to review the project to ensure that its content was in line with the research objectives and the actual needs of secondary students. Based on expert feedback and our own evaluation, the evaluation was optimized by removing five redundant entries or those that performed poorly in the initial reliability and validity evaluation. After this process was completed, exploratory factor and confirmatory factor analyses were conducted and 18 entries were finalized to ensure that the adjusted assessment had higher validity and reliability.

Sample

This study targets middle school students aged between 12 and 15 years old. We aim to recruit a sample of approximately 60 students. Using a stratified random sampling method, we'll ensure the sample accurately represents our target demographic. Before initiate the study, both the students and their parents or guardians receive a briefing about the study's purpose and methodology. They are reassured that participation is voluntary, and they can opt out at any point without any repercussions. All participants are also ensured anonymity, and it is emphasized that the collected data is used strictly for research purposes, with no personal data being disclosed.

Data collection

Data were collected in the participating secondary school Settings as well as in relevant Settings tailored to curriculum needs.

Self-introduction exercise

Each student will have one minute to introduce themselves, emphasizing details such as their name, age, and personal interests.

Group activities

Participants will be randomly divided into groups of 4-6 people. They will be assigned a topic to discuss. At this stage, our observations will focus on students' interactions, noting their teamwork skills, expressive skills, and the social sensitivity and openness they display.

Class presentation

After the discussion, each group is tasked with presenting their conclusions to the class. In this section we will assess each student's self-expression skills, from verbal language to body language cues.

Through these stages, the research team will use the Middle School Student Self-Expression Skills Assessment (SSA-M) to measure and record student behavior and performance.

Analysis

Kaiser-Meyer-Olkin (KMO) measurements and Bartlett's sphericity test: KMO measurements and Bartlett's sphericity test are used to determine the appropriateness of such analytical data before factor analysis is performed.

Exploratory factor analysis (EFA)

An exploratory factor analysis is used to identify the underlying factor structure of the assessment. On the basis of EFA results, further remove the items and optimize the factor structure.

Reliability analysis

After EFA, the reliability of the revised set of items was assessed using Cronbach's alpha to determine the internal consistency of the evaluation.

Confirmatory factor analysis (CFA)

After the EFA and project are finalized, a confirmatory factor analysis is performed to validate the factor structure

Results**Kaiser-meyer-olkin (KMO) and bartlett's sphericity test**

The Kaiser-Meyer-Olkin (KMO) tests the adequacy of the data for factor analysis. KMO value greater than 0.6 is considered adequate, with values closer to 1 indicating better data suitability for factor analysis. In this study, the KMO measure is 0.847, suggesting that the sample is very suitable for factor analysis. Bartlett's Test of Sphericity tests the hypothesis that the correlation matrix is an identity matrix, which would indicate that the variables are unrelated and therefore unsuitable for structure detection. A significant Bartlett's test ($p < 0.05$) is an indicator that a factor analysis may be useful with the data. Given the highly significant p-value of 0.000 in this study, it confirms that a factor analysis is appropriate. In conclusion, both the KMO measure and Bartlett's Test of Sphericity indicate that a factor analysis is suitable for this dataset.

Table 1. Kaiser-meyer-olkin (KMO) and bartlett's sphericity test

Metric	Value
KMO Measure of Sampling Adequacy	0.847
Bartlett's Test of Sphericity	
Approximate Chi-Square	806.818
Degrees of Freedom	190
Significance	0

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Exploratory factor analysis (EFA):

During factor analysis, the Total Variance Interpretation table (as shown in the table below) represents the variance captured from the data for each factor, with three principal dimensions extracted. The first dimension explains 40.091% of the total variance, while the second and third dimensions contribute 13.712% and 12.170%, respectively. Collectively, these three dimensions captured approximately 65.973% of the total variance, underscoring their dominant role in representing the underlying structure of our dataset.

Table 2. Total variance interpretation

ingredient	Total variance interpretation								
	Initial eigenvalue			Extract the sum of squared loads			Rotating load sum of squares		
	total	Percent variance	Cumulative %	total	Percent variance	Cumulative %	total	Percent variance	Cumulative %
1	8.018	40.091	40.091	8.018	40.091	40.091	6.943	34.713	34.713
2	2.742	13.712	53.803	2.742	13.712	53.803	3.142	15.711	50.425
3	2.434	12.17	65.973	2.434	12.17	65.973	3.11	15.548	65.973
4	0.871	4.353	70.326						
5	0.78	3.902	74.228						

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Table 3. The component matrix after rotation

	The component matrix after rotation		
	ingredient		
	1	2	3
Listening Comprehension	0.904	0.237	0.09
Pronunciation	0.882	0.161	0.112
Polite Language	0.855	0.257	0.071
Dress and Demeanor	0.837	0.211	0.177
Eye Contact	0.795	-0.025	0.083
Expression	0.786	0.176	0.099
Appearance Satisfaction	0.754	-0.067	-0.056
Voice Tone and Volume	0.723	0.149	0.034
Fluency	0.63	0.238	0.161
Facial Expressions	0.614	0.012	0.022
Acceptance of Physical Flaws	0.6	0.415	0.136
Acceptance in New Relationships	0.158	0.881	0.122
Communication and Collaboration in Teamwork	0.141	0.881	0.07
Willingness to Try New Social Activities	0.149	0.858	-0.033
Posture	0.095	0.581	0.026
Interaction Positivity	0.044	0.042	0.896
Empathy	-0.122	-0.005	0.821
Respect for Different Opinions	0.07	0.116	0.799
Adaptability	0.303	0.12	0.71
Response	0.501	-0.089	0.589

From the rotated dimension matrix, it's evident that the variable "Posture" has a correlation coefficient of 0.095 with Dimension 1 and 0.581 with Dimension 2. This indicates its significant relationship with Dimension 2 and not with Dimension 1. Thus, the inclusion of "Posture" in Dimension 1 was found to be inappropriate and it was removed from this dimension. Similarly,

the variable "Response" has correlation coefficients of 0.501 with Dimension 1 and 0.589 with Dimension 3. Given its closer relationship with Dimension 3, its inclusion in Dimension 1 was deemed not meaningful, Thus, its removal from this dimension.

The table below is the adjusted rotation component matrix and now shows the correlation of each entry to the three dimensions. From this updated table, we can see which dimension each entry is now most relevant to and get a clear picture of the structure of the model.

Table 4. Component score coefficient matrix

	The rotated component matrix ^a		
	Component		
	1	2	3
Satisfaction with Appearance	0.764		
Acceptance of Physical Flaws	0.604		
Facial Expression	0.615		
Eye Contact	0.806		
Tone and Volume of Voice	0.727		
Fluency	0.632		
Expression	0.788		
Pronunciation	0.877		
politeness	0.855		
Listen and understand	0.901		
Attire and Etiquette (Dress and Demeanor)	0.845		
Acceptance of new relationships		0.883	
Willingness to try new social activities		0.869	
Communication and Collaboration in Teamwork		0.906	
Empathy			0.826
Respect for Different Opinions			0.82
Enthusiasm in Interaction			0.895
Adaptability			0.713
Extraction method: principal component analysis.			
Rotation method: Caesar's normalized maximum variance method			
a. The rotation has converged after 4 iterations			

Based on our description of the expected dimensions in the literature review, we can conclude that the first dimension is consistent with our expectation of "demonstrating confidence"; The second dimension corresponds to "social openness"; The third dimension matches "social sensitivity."

Reliability analysis

Reliability essentially measures the consistency and stability of a tool over repeated applications, and a widely accepted metric for assessing reliability is Cronbach's Alpha.

As shown in the table below, Cronbach's Alpha value for the revised assessment in this study was 0.896. In general, alpha values above 0.7 are considered acceptable and above 0.8 is considered good. The alpha value of this assessment was 0.896, indicating high internal consistency and robustness of our scale.

Table 5. Cronbach's alpha

Reliability statistics		
Cronbach's Alpha	Kronbach Alpha based on standardized terms	items
0.896	0.905	18

Confirmatory factor analysis (CFA)

After exploratory factor analysis (EFA), this study further confirmed the factor structure using confirmatory factor analysis (CFA). Unlike EFA, CFA enables us to explicitly test whether the expected factor structure is consistent with the data, and in this section, the key statistical results of the CFA model and its fit are presented below.

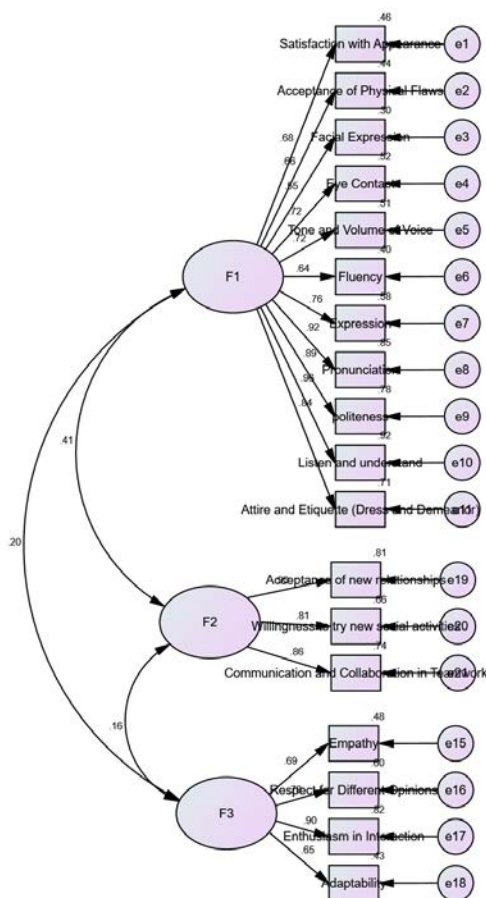


Figure 1. CFA model structure through AMOS

Table 6. Model fit indices

Model	CMIN/DF	RMR	GFI	TLI	CFI	RMSEA	AIC	BIC
Default model	1.144	0.049	0.8	0.968	0.973	0.049	229.061	310.74
Saturated model		0	1		1	0	342	700.133
Independence model	5.567	0.197	0.248	0	0	0.278		

The Default model in this study shows a good fit in most indices. The CMIN/DF value of 1.144, RMR at 0.049, and an RMSEA of 0.049 all highlight its favorable alignment with the

observed data. Additionally, the GFI, TLI, and CFI values hovering close to 1 further cement its superiority. On the information criteria front, lower AIC and BIC values for the Default model underscore its balance between fit and parsimony compared to the Saturated model.

In contrast, the Saturated model, while achieving perfect data fit, can be overfitting and lacks the generalizability offered by the Default model. The Independence model is decidedly unsuitable, with its poor performance evident from its high CMIN/DF and low GFI, TLI, and CFI values.

Conclusively, the analysis emphasizes the robustness and adequacy of the Default model for our research objectives, striking an optimal balance between fit and model parsimony.

In summary, the various statistical metrics presented from the Confirmatory Factor Analysis (CFA) highlight the robustness and adequacy of our default model. This CFA thus not only confirms earlier findings from the EFA but also bolsters the validity and reliability of our model.

Discussion and conclusion

The purpose of this study is to conduct multiple verification of the revised self-presentation assessment for middle school students to further verify the effectiveness and reliability of the tool. After a rigorous content validity process, 20 highly relevant items were retained, ensuring objective consistency in the assessment tools. KMO measurements and Bartlett sphericity tests further demonstrate the robust statistical basis of the study, both of which indicate the appropriateness of factor analysis of the dataset. Exploratory factor analysis (EFA) then successfully extracted three main dimensions, consistent with the expected aspects of "demonstrated confidence," "social openness," and "social sensitivity." Reliability analysis further enhances the internal consistency and robustness of our scale, while confirmatory factor analysis (CFA) establishes the validity and adequacy of our proposed model. The statistical indicators not only prove the robustness of the research, but also show that the research results provide a solid foundation for the evaluation of self-presentation skills of middle school students.

Although this study has made further progress in building a reliable assessment of self-presentation skills for middle school students, it also has certain limitations. First, the study leaned more toward teacher assessments, which may not capture the full range of student behaviors, especially those that are obvious outside of the classroom. As observed by Fiorenzo Laghi et al. (2011), which highlights the intrinsic link between individual self-presentation and social goals, there may be nuances in student behavior outside the learning environment that this study may not be able to fully encapsulate. Secondly, the study sample is regional and cannot represent all the middle school students in all regions. Therefore, the findings may be limited by certain cultural and social contexts.

In future research, it is recommended to further explore how technology and modern educational methods can be combined to provide innovative ways to train students in self-presentation skills. For example, using virtual reality or gamified learning may create an authentic and safe environment for students to express themselves freely. As research by Michikyan and Suarez-Orozco (2016) emphasizes, when adolescents interact with others online, it can form supportive online peer groups that generate positive feedback on self-concept, demonstrating the importance of technology in cultivating students' self-presentation abilities.

Overall, this study provides a new perspective and tool for the assessment of self-presentation skills of middle school students, but there is still a lot of room for development. It is hoped that through continuous research and innovation, better educational resources and

opportunities can be provided for contemporary middle school students to help them better face future challenges.

Declaration of conflicting interest

The authors declare that there is no conflict of interest in this work.

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