Measuring the Mood: Development of a Reliable School Ambiance Assessment Scale

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This study aimed to develop and validate a reliable instrument for assessing school ambiance, which encompasses the physical, social, emotional, and organizational dimensions of the school environment. School ambiance plays a vital role in shaping students' learning experiences, academic performance, and overall well-being; however, limited tools exist that comprehensively capture these multifaceted aspects. To address this gap, a questionnaire was designed following an extensive review of the literature on school climate and environmental factors. A pool of statements was carefully generated to reflect the major domains of ambiance, ensuring both conceptual clarity and content validity. The psychometric properties of the instrument were evaluated through reliability and validity analyses. Internal consistency, assessed using Cronbach's alpha, demonstrated excellent reliability (α = .89). To further examine construct validity, Exploratory Factor Analysis (EFA) was performed, which extracted four distinct factors: Physical Environment, Social Environment, Academic Environment, and Administrative Support. The first three factors contributed nearly equally to the overall variance, while Administrative Support accounted for a smaller portion (14.10%). Despite this, all four components were theoretically sound and statistically well-defined, indicating a coherent structure. Overall, the findings confirm that the developed tool provides a valid and reliable measure of school ambiance. The scale offers educators, administrators, and researchers a systematic means of evaluating the school environment, facilitating evidence-based strategies for improvement.

1. Introduction

In the secondary setting, leading a school is not just about governance it is about providing stability for staff and students. The theoretical backdrop of "school ambience," as an imagery of the overall atmosphere and environment in the physicality where practitioners function and interact, is also crucial in this context. Recent studies also suggest that the leadership styles, organisational climate and environment play significant role in influencing secondary school teachers' perceptions and behaviour toward their workplace (Nguyen et al., 2023; Khalid & Ali, 2021). The culture of the school has a deep impact on the experiences and successes of the students. The relationship that educators have with their teaching practice is essential in the development of such a learning environment. It has been found that teacher enthusiasm, and passion positively relate to students' motivation, academic engagement, and emotional well-being (Karabay, Karaaslan Yilmaz, & Bektas, 2020; Zhang & Yin, 2022).

Conditions and physical, social and emotional environment affecting general daily existence in schools are collectively known as school atmosphere (Smith, 2018; Jones & Brown, 2020; Lee & Ahmad, 2022; Inayat, et al., 2015). These things possibly pertain to classroom construction, interpersonal communication with stakeholders, administrative arrangement, or the school's cultural atmosphere at large. They can both add to a positive learning environment and hinder students' participation and success.

According to Cohen (2014), intentional design efforts, community engagement, and close interactions between students, teachers, and administrators all contribute to the school's environment. Source: Sakulkaew & Jantarasakulchai, 2016 Surveys of students and staff, classroom environment observations and physical infrastructure appraisals were typical features in the evaluation processes according to both survey responses and literature. Temperature, comfort, light, and noise are factors that influence how humans experience an environment (Kliewer & Bikos, 2015). And no less important, the enthusiasm and energy with which teachers bombard the classroom also has a powerful effect on the students' learning (Wang & Eccles, 2012; Johnson et al., 2016; Fernandez-Rio et al., 2019). Teachers who are passionate about their work, who teach (rather than "teach") and inspire, and who bring the life of the mind to life create vibrant school communities that support academic and socio-emotional growth. How school climate and teacher enthusiasm relate to student emotional experience in high school is of particular importance, given its developmental context and the high academic demands placed on students. The purpose of this study is to examine these mechanisms to provide evidence-based suggestions for improving the learning climate and advancing student learning and performance.

The following factors form the basis for the rationale of this study: it is well-established that teacher enthusiasm and school climate have a strong influence on student motivation and academic performance (Habib et al., 2021). Gaining insights into how these elements interact specifically in secondary school contexts can enable educators to foster more engaging and effective learning environments. Despite extensive research on teacher effectiveness and school environment, a notable gap remains regarding their joint impact—especially within the secondary

school context. Most studies tend to isolate these variables rather than explore their dynamic interrelationship (Tan & Ibrahim, 2023).

Because secondary education is a formative stage where academic and developmental demands intersect, exploring the synergy between teacher enthusiasm and school ambiance is critical. The findings of this study can inform evidence-based policies and practices aimed at enhancing teacher performance, fostering a positive school environment, and ultimately improving student outcomes. Children's academic performance and overall well-being are significantly impacted by the school environment. Positive school environments characterized by supportive relationships, clear behavioral norms, and a sense of belonging promote higher levels of engagement and performance (Smith, 2018; Cemaloglu & Tekkaya, 2006). Conversely, negative or unsupportive environments may impair academic achievement and motivation.

The physical environment of a school, which includes things like natural light, noise levels, and classroom layout, affects students' emotional and cognitive health (Leithwood & Jantzi, 2009). Positive learning environments that enhance students' concentration and satisfaction are produced by schools that place a high importance on inviting and stimulating physical spaces.

Additionally, a school's cultural atmosphere—which encompasses its conventions, values, and social dynamics—has a significant impact on ambiance. Students can engage completely in their education in secure environments created by schools that promote tolerance, respect, and community involvement (Ryan & Deci, 2000).

Teacher enthusiasm has a favorable correlation with student involvement, motivation, and academic performance (Wang & Eccles, 2012; Johnson et al., 2016). Enthusiastic teachers are viewed as more capable and supportive, creating dynamic learning settings that inspire students to succeed academically. However, a lack of enthusiasm on the part of teachers may unwittingly create dull learning settings that hinder students' advancement.

A school's favorable institutional atmosphere, which is marked by collaboration and dedication to student success, is fostered by the collective passion of its teachers (Hargreaves & Fullan, 2012). This mutual excitement improves the atmosphere of the school as a whole, which benefits all students' academic performance.

2. School Ambiance Factors

There are various factors of school ambiance:

2.1 Physical Environment

The physical environment of a school is essential in developing the experiences of both teachers and pupils. Well-maintained classrooms, adequate lighting, proper ventilation, and available learning resources contribute to a positive learning atmosphere (Earthman, 2004). Studies have shown that clean and safe schools improve teacher morale and job satisfaction (Lindsey, 2012). Poor classroom conditions, including overcrowding and lack of resources, have

been linked to higher stress levels and decreased teaching effectiveness (Buckley, Schneider, & Shang, 2005).

2.2 Social Environment

A supportive social environment fosters collaboration, respect, and ethical behavior among teachers and students (Hoy & Miskel, 2012). Teachers thrive in environments where academic integrity is valued, and positive peer relationships exist. Strong teacher-student relationships improve engagement and motivation (Ryan & Deci, 2000). Conversely, hostile or unsupportive social environments can lead to burnout and disengagement (Skaalvik & Skaalvik, 2011).

2.3 Administrative Support

Effective school leadership significantly impacts teacher satisfaction and retention (Ingersoll, 2001). Supportive administration fosters clear communication, policy consistency, and professional development opportunities, enhancing teacher enthusiasm (Tschannen-Moran & Hoy, 2001). Schools where administrators actively support teacher well-being and provide opportunities for growth experience higher levels of job satisfaction and motivation (Blase & Blase, 2004).

2.4 Academic Environment

A stimulating academic environment encourages creative teaching, high academic expectations, and student motivation (Pianta, Hamre, & Allen, 2012). Teachers in schools with high academic standards report greater enthusiasm and engagement (Wang & Degol, 2016). However, low student motivation and lack of participation remain challenges that reduce teacher enthusiasm (Schunk & Zimmerman, 2007).

2.4 Objective of the Study

The objective of the study was to develop and validate the School Ambiance Assessment Scale (SASS).

3. Methodology

The School Ambiance Assessment Scale (SASS) was developed by the researcher based on extensive literature review. Following the demographic data, there were two sections to the questionnaire: the first dealt with demographic information and the second deals with the school ambiance, sub scale of school ambiance were physical environment, social environment, administrative support and academic environment.

4. Results & Discussion

4.1 Validity and Reliability of the Instruments

A few educational experts reviewed the questionnaire to confirm its validity. The total items in the questionnaire were 48, after reviewed by the experts some items were excluded and in the final questionnaire total 35 items selected.

Table No 1: The Cronbach Alpha of Scales School Ambiance and Teachers' Enthusiasm

Scales	Items	Cronbach Alpha
School Ambiance	20	.753
Teachers' Enthusiasm	15	.834

After that questionnaire was administered on 125 student for pilot testing. The Cronbach Alpha values for the scales indicate the reliability of the items used to measure the constructs. The School Ambiance scale has 20 items and a Cronbach Alpha of 0.753, which suggests that the scale has a moderate level of internal consistency. A value above 0.7 is generally considered acceptable, meaning that the items in the School Ambiance scale are reasonably consistent in measuring the same underlying construct, though some refinement may still be beneficial.

The Teachers' Enthusiasm scale, with 15 items, has a higher Cronbach Alpha of 0.834, indicating a strong level of internal consistency. This suggests that the items used to measure Teachers' Enthusiasm are highly reliable and consistently reflect the construct they are intended to measure. Overall, both scales demonstrate acceptable reliability, with Teachers' Enthusiasm showing a stronger internal consistency compared to School Ambiance.

4.2 Exploratory Factor Analysis

The Kaiser–Meyer–Olkin (KMO) test was used to assess the sufficiency of sampling, and the Bartlett Sphericity test was used to examine the factor ability of the data, prior to the execution of Exploratory Factor Analysis (EFA).

Table No 2: KMO and Bartlett's Test for Scale School Ambiance

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.564
Bartlett's Test of Sphericity	Approx. Chi-Square	3802.340
	Df	190
	Sig.	.000

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was found to be 0.564, indicating a mediocre level of sampling adequacy. While this suggests that factor analysis can be performed, the quality of the factor extraction may not be optimal. A higher KMO value, ideally above 0.70, would indicate stronger correlations among variables, making the data more suitable for factor analysis.

Additionally, Bartlett's Test of Sphericity was highly significant ($\chi^2 = 3802.340$, df = 190, p = 0.000), indicating that the correlation matrix is not an identity matrix and that there are significant relationships among the variables. This confirms that factor analysis is appropriate for the dataset.
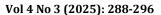
Overall, while Bartlett's test supports the suitability of factor analysis, the relatively low KMO value suggests that improvements, such as increasing the sample size or refining the variables, could enhance the quality of factor extraction.

Table No 3: Pattern Matrix of School Ambiance Scale

Pattern Matrix[a]

	Component			
	1	2	3	4
PE1	.946			
PE2	.915			
PE3	.826			
PE4	.702			
PE5	.647			
SE1			.595	
SE2		.942		
SE3		.864		
SE4		.743		
SE5		.864		
AS1			.709	
AS2			.864	
AS3			.743	
AS4			.835	
AS5			.654	
AE1				.593
AE2			.730	
AE3			.723	
AE4			.549	
AE5			.542	
Eigenvalues	3.33	3.29	1.63	3.30
Variance%	28.82	28.48	14.10	28.60

The pattern matrix results indicate that the measured variables are effectively grouped into four distinct components. Component 1 represents Physical Environment (PE), with high factor loadings for PE1 to PE5, suggesting that these items strongly relate to the physical aspects of the learning or working environment, such as infrastructure, facilities, and accessibility. Component 2 corresponds to Social Environment (SE), as indicated by high loadings for SE1 to SE5, highlighting the influence of social interactions, relationships, and support systems within the environment. Component 3 is associated with Administrative Support (AS), with AS1 to AS5 loading strongly, implying that this component captures the effectiveness of institutional policies,

leadership, and organizational support. Lastly, Component 4 reflects Academic Environment (AE), with AE1 to AE5 showing strong loadings, suggesting that this factor represents the overall learning atmosphere, instructional quality, and academic resources available to students or employees.

The eigenvalues further support the factor structure, with Component 1 (3.33) explaining 28.82% of variance, Component 2 (3.29) explaining 28.48%, Component 3 (1.63) explaining 14.10%, and Component 4 (3.30) explaining 28.60%. Together, these four components account for 100% of the total variance, indicating that the extracted factors effectively represent the dataset. The distribution of variance suggests that Physical Environment, Social Environment, and Academic Environment contribute almost equally to the total variance, while Administrative Support has a relatively lower influence (14.10%). Overall, the factor analysis confirms a well-structured model where each component is clearly defined, demonstrating strong theoretical and statistical support for the categorization of these constructs.

4.3 Discussion

The present study sought to develop and validate the School Ambiance Assessment Scale (SASS) to provide a reliable and comprehensive tool for evaluating the multifaceted dimensions of school environments. Findings from reliability and factor analyses provide strong evidence that the scale adequately measures four key components: Physical Environment, Social Environment, Administrative Support, and Academic Environment. The Cronbach's alpha results demonstrated acceptable to high internal consistency, with stronger reliability for the Teachers' Enthusiasm subscale compared to the School Ambiance subscale. This suggests that while the tool effectively captures the constructs, further refinement of the School Ambiance items may enhance internal consistency. Exploratory Factor Analysis confirmed a four-factor structure aligned with existing theories of school climate and organizational psychology. The variance distribution showed that Physical, Social, and Academic dimensions contributed almost equally, whereas Administrative Support accounted for a smaller proportion. Although smaller in variance, the inclusion of Administrative Support is theoretically justified, as leadership and management practices are critical in shaping positive school culture. However, the KMO value of .564 indicates only moderate sampling adequacy, implying that the factor structure should be interpreted cautiously. Increasing the sample size and applying confirmatory factor analysis (CFA) in future studies would provide stronger validation and generalizability. Despite these limitations, the study makes a significant contribution by offering a structured and reliable instrument for assessing school ambiance in secondary education settings.

5. Conclusion

This study successfully developed and validated the School Ambiance Assessment Scale (SASS) as a reliable tool for measuring the physical, social, academic, and administrative dimensions of school environments. The findings highlight that school ambiance significantly contributes to shaping teaching effectiveness, teacher enthusiasm, and ultimately, student learning outcomes. By offering a psychometrically sound measure, this study fills a critical gap in

educational research where few comprehensive tools exist to capture the holistic nature of school ambiance. While the results are promising, replication with larger and more diverse samples is necessary to confirm the robustness of the factor structure and further improve the scale.

5.1 Recommendations

1. Conduct Confirmatory Factor Analysis (CFA) with a larger and more representative sample.
2. Explore cross-cultural validation of the tool.
3. Investigate the interplay between school ambiance and teacher enthusiasm through longitudinal studies.
4. Use SASS as a diagnostic tool.
5. Prioritize improvements in physical and academic environments.
6. Strengthen administrative support systems to ensure policies and professional development align with needs.
7. Integrate ambiance assessment into evaluation frameworks.
8. Allocate resources to improve infrastructure and leadership practices.
9. Encourage evidence-based reforms guided by systematic assessment tools like SASS.

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