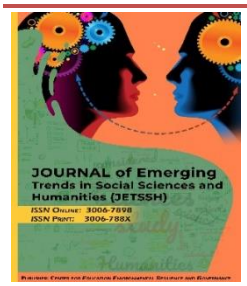

Journal of Emerging Trends in Social Sciences and Humanities

A Double-Blind, Peer-Reviewed, HEC recognized Y-category Research Journal

E-ISSN: 3006-7898 **P-ISSN:** 3006-788X

Volume 3, Issue 2, 2026, 34-52

A Multi-Dimensional Analysis of Culture–Practice Gaps in Sindh Government Schools: Evidence from Karachi, Pakistan

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Article Information

Received:

2026-04-06

Revised:

2026-04-29

Accepted:

2026-06-07

Keywords

School Culture; Culture-Practice Gap; Formal Culture; Informal Culture; Environmental Culture; Cucchiara Integrative Model; Instrument Validity.

ABSTRACT

This study employs Cucchiara et al.'s (2025) integrative theory of school culture to investigate culture-practice gaps across the formal, informal, and environmental domains in Sindh government schools in Karachi, Pakistan. Using a survey sample of 380 teachers, the study measures the extent of gap by operationalizing school culture into three sources (formal, informal, environmental) and two forms (meanings, practices), analyzing the alignment and misalignment between espoused cultural values and enacted practices. The findings indicate considerable heterogeneity in terms of the gaps patterns: formal culture shows minimal gap ($M = 0.55$, $d = 0.25$), informal culture demonstrates substantial aspiration deficits ($M = 4.16$, $d = 2.00$), and environmental culture exhibits implementation surpluses ($M = -3.53$, $d = -1.57$). The reliability of the measurement instrument has been found to be acceptable to excellent ($\alpha = .779–.914$) and strong construct validity through convergent and discriminant validity evidence. Female teachers have significantly higher perceptions about culture in all dimensions. School type had a significant positive effect on cultural perceptions, with mixed schools demonstrating higher alignment. The findings help highlight the multidimensional nature of cultural dissonance in resource-constrained schools educational contexts and extend Cucchiara et al.'s framework to resource-constraint schools and the educational contexts of developing countries.

Introduction

School culture has long been recognized as a key factor influencing the quality of education, organizational success, and implementation of reforms (Deal & Peterson, 2016). Nevertheless, despite years of research, the concept has not been precisely defined, with definitions ranging from general descriptions of "values, norms, and

Publisher: Institute for Educating Environmental Resilience and Governance

beliefs" to more concrete definitions emphasizing organizational climate and behavior (Cucchiara et al., 2025). This conceptual ambiguity has undermined the capacity of researchers and practitioners to assess problems, to monitor changes or design effective measures.

Recent theoretical developments have attempted to address this problem. Cucchiara et al. (2025) developed an integrative model that conceptualizes school culture as comprising two intersecting dimensions: sources (formal, informal, environmental) and forms (meanings and practices). The formal dimension comprises of official aspects of culture such as the mission statement, discipline policies, and administrative organization. The informal dimension encompasses situational factors, like teacher collegiality, student peer-group culture, and patterns of communication. The environmental dimension includes external influences district policies, community demographics, and sociopolitical context. Each type of source is represented through both meanings (cognitive, symbolic, and interpretive elements) and practices (behavioral, procedural, and enacted elements), resulting in six cultural sub-dimensions.

This framework allows researchers to identify culture–practice gaps that occur whenever there is a misalignment between meanings (what organizational members espouse) and practices (what they actually do) within organizations. Such a gap is considered a form of organizational hypocrisy (Brunsson, 1989) that may hinder change initiatives, reduce trust and perpetuate inequality. For example, a culture–practice gap exists when teacher's express commitment to collaborative professionalism (informal meanings) but continue to work in isolation (informal practices). This misalignment indicates cultural dysfunction that cannot be resolved through structural changes alone.

The Sindh Government Schools in Karachi provide an especially appropriate context for exploring culture–practice gaps. Administered by the Sindh School Education and Literacy Department (SELD), these schools cater to a large and diverse student population and are important institutions in offering education in Pakistan's largest metropolitan city. Despite continuing reforms in the schools, many of them still encounter difficulties such as resource deficiencies, absence of teachers, lack of professional development opportunities, traditional modes of teaching, and poor systems of accountability (Ali et al., 2016; Government of Sindh, 2024; National Education Policy, 2024). Previous research has repeatedly found problems related to school effectiveness, instructional leadership, and organizational performance in the Sindh government schools, and school culture has been found to be an important factor determining the quality of education (Niaz Ali, 2016). However, in prior studies, school culture was treated as a unidimensional variable without consideration of the multidimensional aspects of culture-practice congruence and incongruence.

The current research study fills this gap by employing an integrative model proposed by Cucchiara et al. (2025) to assess culture-practice gaps among Sindh government schools in Karachi. The study aims to: (a) determine the size and direction of gaps across the formal, informal, and environmental dimensions; (b) test the reliability and validity of the six-dimensional measurement approach in the Pakistani setting; (c) examine demographic and institutional correlates of cultural gaps; and (d) provide evidence-based suggestions for cultural improvement.

This study aims to achieve the following objectives:

1. To examine the existence, direction, and magnitude of culture–practice gaps across the formal, informal, and environmental dimensions of school culture in Sindh Government Schools in Karachi.
2. To assess the culture–practice gap within the informal dimension of school culture by comparing teachers' perceived cultural meanings and practices.
3. To assess the culture–practice gap within the environmental dimension of school culture by comparing teachers' perceived cultural meanings and practices.
4. To examine differences in teachers' perceptions of school culture based on gender in Sindh Government Schools in Karachi.
5. To examine the influence of school type and school category on school culture and culture–practice gaps in Sindh Government Schools in

Karachi.

Literature Review

School Culture in Educational Research

The concept of school culture has been studied extensively since the 1980s when authors like Deal and Peterson (2016) highlighted the symbolic and ritualistic aspects of school. Earlier concepts viewed culture as a holistic characteristic of organizations or something that the schools "have" more or less. Later, the concepts distinguished between culture and climate, where culture is a deeper normative structure while climate is more related to immediate perception (Hoy & Miskel, 2013).

It is becoming more and more evident that school culture is not uni-dimensional. Valentine and Gruenert (1998) measured six different dimensions of school culture, which were: collaborative leadership, teacher collaboration, professional development, unity of purpose, collegiality, and learning partnership. Even though this approach was very influential, it did not differentiate between sources and forms; for instance, leadership was separated from collaboration.

Cucchiara et al. (2025) overcome this deficiency through the development of a theoretically integrative model of culture, which clearly differentiates sources and forms of culture. Cucchiara et al.'s (2025) approach integrates the notion of institutional theory formulated by Selznick (1957), which differentiates between formal organization structures and informal institutional patterns, with ideas of environmental isomorphism introduced by DiMaggio and Powell (1983).

Culture-Practice Gaps in Education

Decoupling a disconnection between form and substance is something that has been well-established in literature related to educational organizations (Meyer & Rowan, 1977). Educational institutions tend to engage with reform programs without making changes in their teaching methods, thereby ensuring what is referred to as ceremonial compliance that fulfills external requirements without changing their fundamental processes (Bromley & Powell, 2012).

Nevertheless, decoupling is just one type of a gap between culture and practice. In recent times, different types of gap patterns have been recognized based on their different impacts. For instance, Coburn (2004) found out that teachers can practice reforms superficially but hold onto traditional attitudes at the same time, resulting into a negative gap between environmental meanings (reform goals in the district level) and informal practices (teaching in the classroom). Spillane et al. (2002) found that sense making is an important aspect in policy implementation through which teachers interpret external mandates, creating variability in environmental meanings that shapes subsequent practices.

In a developing country setting, the existence of a gap between culture and practice could be especially high because of limited resources, weak institutional capability, and competing normative influences. There is evidence from research on schools run by the Pakistani government indicating huge gaps between policy pronouncements and practice in classrooms, where there are usually absentee teachers, rote learning methods of teaching, and an administration that is more concerned about procedures than results (Andrabi et al., 2008). Nevertheless, this literature does not identify gaps on all cultural dimensions.

School Culture in Pakistani Government Schools

Culture is one of the major variables that has emerged in all research on Pakistani government schools. Niaz Ali (2016) concluded that the level of school culture was low among the Pakistani government secondary schools and that there were considerable correlations between culture and school effectiveness. In this research, school culture was defined in terms of discipline, care, respect, and influence of the teacher though without differentiating meanings from practices.

Qualitative research has shed light on the nature of such cultural dynamics. For example, a case study of a Karachi government school has revealed the central role played by head teachers in building collaborative learning cultures; however, political interference, test-focused curriculum, and teachers' part-time employment have hindered the formation of a professional community. Similarly, another piece of research

has explained the role of "early generation" teachers who had introduced indigenous pedagogies which combined domestic educational activities with formal schooling and the hybrid cultures that have disappeared due to the pressure of bureaucracy.

The National Education Policy Development Framework (2024) explicitly mentions the use of research for policy-making in Pakistan and notes the "absence of culture of research-based policy development and planning." This meta-level observation suggests that culture-practice gaps may extend beyond individual schools to the broader educational governance system.

Theoretical Framework

The theoretical foundation of this study is the Integrative Model of School Culture developed by Cucchiara et al. (2025). The model was a theory-based reconceptualization of school culture which is an integration of ideas drawn from organizational and cultural sociology perspectives. The framework differs from earlier models in three important ways. First, it differentiates between the sources of culture (where the elements of culture come from) and their forms (how culture is represented). These sources include:

- *Formal Culture:* Formal and institutionalized aspects such as mission statements, strategic plans, codes of discipline, and administrative hierarchies. The formal culture is usually a top-down culture, which is deliberately manipulated by organizational leaders.
- *Informal Culture:* Emergent, interactionally produced, and socially negotiated elements such as conversations of teachers in staff room, peer norms among students, assumptions about proper behavior, and spontaneous professional relations.
- *Environmental Culture:* External forces that affect the school environment in form of policy from the district level, accountability from the state level, social class structure of the community, societal norms of education, and representation of schools in the media.

Secondly, the model distinguishes between two forms that each source takes:

- *Meanings:* Cognitive, symbolic, and interpretive aspects such as the "ideas, values, and beliefs" held by organizational actors regarding their organizations. Meanings include how teachers understand the school's mission, what students believe about academic success, and how parents interpret disciplinary policies.
- *Practices:* Behavioral, procedural, and enacted aspects such as the actual activities that make up the organizational reality on a day-to-day basis. These include the way teachers teach, the way administrators implement discipline policies, and the ways students conduct themselves among other students.

The combination of three sources and two forms results in six different analytical categories: formal meanings, formal practices, informal meanings, informal practices, environmental meanings, and environmental practices. This matrix helps researchers identify specifically which aspect of culture is dysfunctional — whether in the formulation of official policies (formal meanings), their implementation (formal practices), the articulation of collegial norms (informal meanings), their enactment (informal practices), the interpretation of external pressures (environmental meanings), or their translation into organizational routines (environmental practices).

Third and most importantly for this study, model emphasizes alignment across dimensions. According to Cucchiara et al. (2025), what makes the school effective is not just the strength of each of its cultural components, but their integration. Alignment between formal meaning and formal practice produces organizational integrity among teachers; consistency between informal meaning and informal practice produces true professionalism among the members of staff; consistency between environmental meaning and environmental practice ensures adaptability of the school itself. Lack of such consistency, or the so-called "culture-practice gaps" produces cognitive dissonance, role conflict, and organizational hypocrisy that undermine both morale and performance.

Conceptualizing Culture-Practice Gaps

Following Cucchiara et al. (2025), the study operationalizes culture-practice gaps as the standardized gap between meanings and practices

scores for each of the cultural sources under study. Three gap patterns are theoretically possible:

- *Positive Gap (Meanings > Practices)*: An "aspiration deficit" where organizational members espouse values they fail to enact. The presence of positive gap pattern implies organizational incapacity to implement the organizational culture and resource problems or motivation issues.
- *Negative Gap (Practices > Meanings)*: An "implementation surplus" where organizational practices exceed organizational commitment. It means that there could be some ritualism, lag in culture development or structural decoupling in organization.
- *Zero Gap (Meanings = Practices*): Culture Alignment where the espoused values and actual behavior match. Zero gap is the optimal condition of organizational culture.

The magnitude, direction, and distribution gaps across the six dimensions serve as a cultural diagnostic index of cultural health. If schools have large positive formal gap, they could possibly have mission statements that are well designed but merely ornamental. If schools have large negative informal gaps, they force collegiality by administrative action instead of professional community. Schools having diverging gap patterns across dimensions suffer from organizational fragmentation.

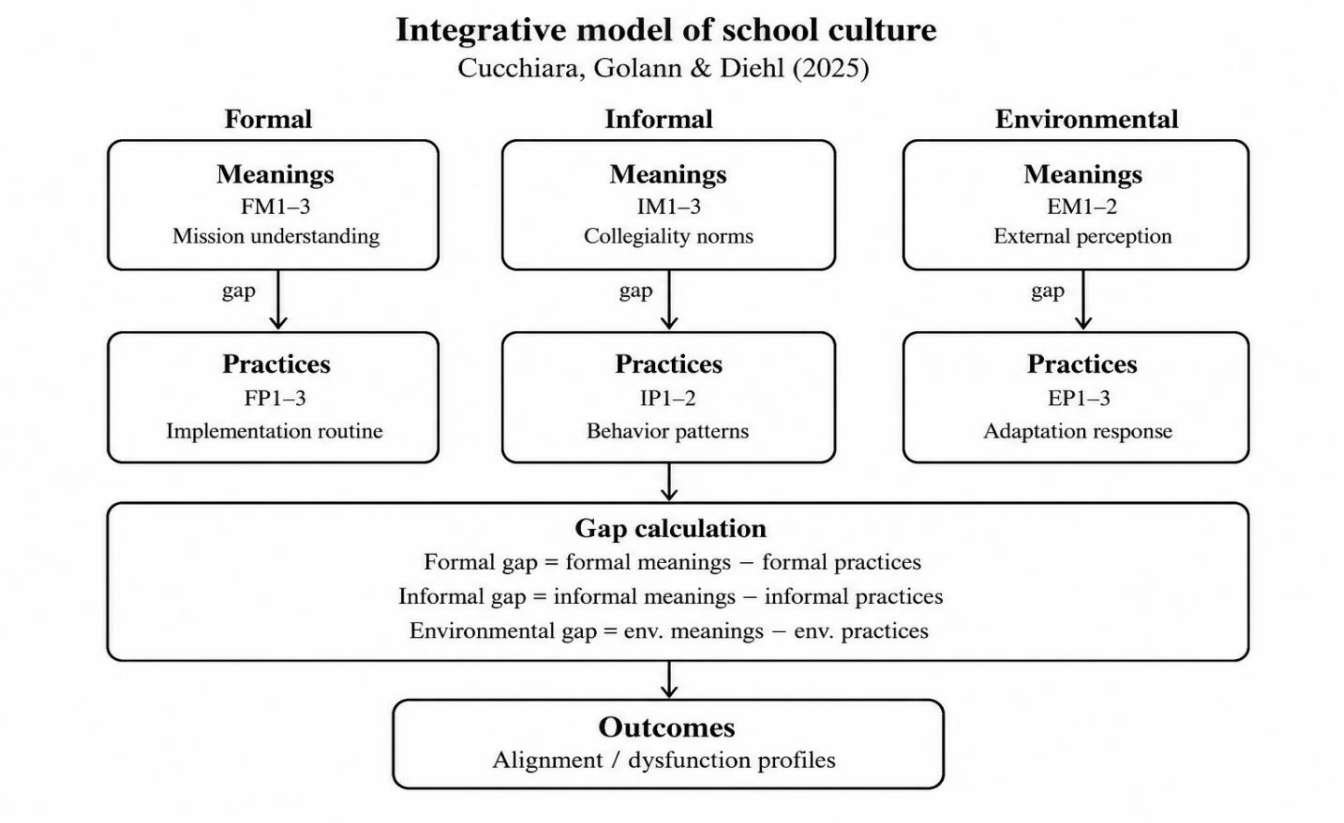
The Sindh Government Schools Karachi Context

The Sindh Government Schools in Karachi operate within a complex educational environment characterized by decentralized governance under the Sindh School Education and Literacy Department (SELD), persistent resource constraints, and ongoing efforts to improve educational quality through policy reforms. Sindh Government School teachers usually face many kinds of cultural and organizational challenges related to the formal, informal, and environmental aspects of school culture. The formal dimension is characterized by the presence of mission statements and other policy documents promoting progressive educational ideologies and accountability regimes prioritizing rote learning and test results. The informal dimension is marked by the constraints of a large number of students in each class, absence of possibilities to conduct collaborative planning, and hierarchical relations between administration and teachers, thus preventing teachers from collaborating and creating professional learning communities. The environmental dimension features such factors as frequent changes in policies, political influence on the process of appointment and transfer of teachers, and the expectations of the community that can contradict the official goals of the curriculum. The contextual factors discussed above imply that culture–practice gaps can be especially common in the case of Sindh Government Schools in Karachi. However, the particularities of these gaps have not been described yet. Thus, this study applies the integrative framework proposed by Cucchiara et al. (2025) to systematically examine culture–practice gaps across the formal, informal, and environmental dimensions of school culture.

Conceptual Framework

According to the integrative model, this paper suggests that there are six distinct dimensions in the school culture of Sindh government schools in Karachi, and differences between meanings and practices of each source represent different types of cultural dysfunctions. Figure 1 shows the conceptual framework**.**

Figure 1: *Conceptual Framework: Multi-Dimensional Analysis of Culture-Practice Gaps*



The framework posits that each source-form intersection represents a distinct cultural domain measurable through specific survey items. Culture-practice gaps are calculated as within-source differences between meanings and practices composites. These gaps are hypothesized to vary systematically by demographic and institutional characteristics, providing diagnostic information for targeted intervention.

Research Methodology

Research Design

This study employed a quantitative cross-sectional survey design to measure school culture dimensions and calculate culture-practice gaps. The design enables population-level estimation of gap patterns and systematic comparison across demographic and institutional subgroups.

Population and Sample

All the teachers employed in the government schools in selected districts of Pakistan served as the target population. Stratified Random Sampling technique was used to obtain a total of 380 teachers comprising of various categories of teachers. Out of the total number of respondents, 147 respondents (38.7%) were male teachers while 233 (61.3%) were female teachers, indicating the feminization of teaching profession in Pakistan's primary and secondary education system. Distribution of age included from the category of young teachers (group 1) to experienced teachers (group 4).

Instrumentation

Instrument Development

The instrument of the survey was developed using the integrative framework by Cucchiara et al. (2025) and used six cultural dimensions with 16 items. The items for the instrument were adopted from school culture survey instruments developed by Valentine & Gruenert (1998); Gruenert & Valentine (1998) and revised according to the context of government schools in Pakistan. The survey instrument was reviewed by three experts who were educationalists and piloted among 30 teachers other than the sample.

Scale Structure

The scale consists of six sub-scales, corresponding to the dimensions of the integrative model:

- Formal Meanings (3 items, FM1-FM3): Measured the cognitive knowledge and valuations of teachers regarding the school's mission, discipline policies, and management system. Sample item: "I have clear knowledge about the mission and goals of my school."
- Formal Practices (3 items, FP1-FP3): Measured the degree of implementation of the formal rules and procedures. Sample item: "School policies are always implemented regardless of the situation."
- Informal Meanings (3 items, IM1-IM3): Measured the views of teachers on collegiality and interpersonal relations. Sample item: "Teachers at this school respect one another."
- Informal Practices (2 items, IP1-IP2): Actual patterns of collaboration and communication among teachers. Example: "Teachers often collaborate in lesson planning."
- Environmental Meanings (2 items, EM1-EM2): Teachers' perceptions of what is expected of them in terms of policies, pressures from outside the school. Example: "I know what the district expects from my school."
- Environmental Practices (3 items, EP1-EP3): Actual behaviors toward outside pressures and patterns of resource distribution. Example: "Our school successfully adjusts its activities according to changes in district policies."

All items were measured using 5-point Likert scale (1=Strongly Disagree to 5=Strongly Agree). Composite measures were constructed by summing individual items within a particular dimension resulting in possible scores ranging between 3-15 for formal meanings and practices, 3-15 for informal meanings, 2-10 for informal practices, 2-10 for environmental meanings, and 3-15 for environmental practices.

Culture-Practice Gaps were calculated as:

- Formal Gap = Formal Meanings − Formal Practices
- Informal Gap = Informal Meanings − Informal Practices
- Environmental Gap = Environmental Meanings − Environmental Practices

Positive values indicate meanings exceed practices (aspiration deficits); negative values indicate practices exceed meanings (implementation surpluses).

Instrument Translation and Cultural Adaptation

This instrument was initially developed in English and then translated into Urdu through forward-backward translation techniques. Two bilingual educational researchers separately translated the English version into Urdu and resolved any discrepancies through discussion. It was then back-translated to English to check the semantic equivalence of both the versions. The tool in Urdu language was pilot tested on 30 teachers to check for understanding and cultural appropriateness.

Data Collection Procedures

Data were gathered from September to December 2025 through the distribution of questionnaires face-to-face in the participating schools. Questionnaires were distributed by the researcher during the breaks when there is no class and were collected immediately after completion of the survey. Participants provided their voluntary written informed consent for participation in the study, and non-response rate was 5.7%.

Data Analysis

Data were analyzed using SPSS 26.0 version and SmartPLS version 4. Analysis proceeded in five stages:

1. **Descriptive statistics** (means, standard deviations, skewness, kurtosis) characterized variable distributions.
2. **Reliability analysis** using Cronbach's alpha assessed internal consistency.
3. **Validity analysis** examined convergent validity and discriminant validity
4. **Gap analysis** used paired-samples t-tests to compare meanings and practices within each source, with Cohen's d calculating effect sizes.
5. **Inferential analysis** employed independent-samples t-tests and one-way ANOVAs to test demographic and institutional differences.

Significance was set at $p < .05$. Effect sizes were interpreted using Cohen's (1988) conventions: d = 0.2 (small), 0.5 (medium), 0.8 (large).

Results

Table 1: *Item-Level Descriptive Statistics for School Culture Dimensions (N = 380)*

Item	Dimension	Mean	SD	Min	Max	Skewness	Kurtosis
FM1	Formal Meanings	4.108	0.951	1	5	−1.120	1.003
FM2	Formal Meanings	4.084	0.921	1	5	−1.040	0.864
FM3	Formal Meanings	3.974	1.004	1	5	−0.904	0.307
FP1	Formal Practices	3.853	1.072	1	5	−0.836	−0.044
FP2	Formal Practices	3.782	1.051	1	5	−0.743	0.004
FP3	Formal Practices	3.984	0.988	1	5	−1.103	0.988
IM1	Informal Meanings	4.013	0.954	1	5	−0.921	0.489
IM2	Informal Meanings	3.932	0.972	1	5	−0.933	0.758
IM3	Informal Meanings	3.932	0.980	1	5	−1.024	0.861
IP1	Informal Practices	3.868	1.006	1	5	−0.872	0.333
IP2	Informal Practices	3.853	1.067	1	5	−0.904	0.267
EM1	Environmental Meanings	3.934	1.008	1	5	−0.920	0.365
EM2	Environmental Meanings	3.853	1.070	1	5	−0.805	−0.024
EP1	Environmental Practices	3.684	1.107	1	5	−0.675	−0.186
EP2	Environmental Practices	3.803	1.097	1	5	−0.840	0.017
EP3	Environmental Practices	3.826	1.083	1	5	−0.787	0.008

All items showed good distribution with mean scores between 3.68 and 4.11, which reflects favorable teacher attitudes. The negative skewness scores reflect the presence of ceiling effect with teachers being clustered towards positive responses. The standard deviations were found to be between 0.92 and 1.11.

Table 2: *Composite Score Descriptive Statistics (N = 380)*

Variable	Mean	SD	Min	Max	Skewness	Kurtosis
Formal Meanings	12.166	2.287	3	15	−1.177	2.071
Formal Practices	11.618	2.575	3	15	−0.951	0.848
Informal Meanings	11.876	2.364	3	15	−0.975	1.328
Informal Practices	7.721	1.838	2	10	−0.793	0.334
Environmental Meanings	7.787	1.809	2	10	−1.026	1.134
Environmental Practices	11.313	2.747	3	15	−0.799	0.191
Formal Culture	23.784	4.361	6	30	−1.144	2.230
Informal Culture	19.597	3.687	5	25	−1.029	1.867
Environmental Culture	19.100	4.069	5	25	−0.857	0.890
School Culture	62.482	10.792	16	80	−1.215	2.890
Formal Gap	0.547	2.170	−5	8	0.327	0.768
Informal Gap	4.155	2.081	−3	13	0.146	2.019
Environmental Gap	−3.526	2.254	−9	5	1.078	1.662

These composite scores demonstrate significant differences. Informal practices (M = 7.72) were much lower than informal meanings (M = 11.88), which means there is a great deficiency of aspiration in this domain. On the contrary, environmental practices (M = 11.31) were much higher than environmental meanings (M = 7.79), meaning that people perform rituals without understanding.

Table 3: *Reliability Analysis (Cronbach's Alpha)*

Scale	Items	Cronbach α	Interpretation
Formal Meanings	3	.709	Acceptable
Formal Practices	3	.869	Good
Informal Meanings	3	.744	Acceptable
Informal Practices	2	.727	Acceptable
Environmental Meanings	2	.702	Acceptable
Environmental Practices	3	.884	Good
Formal Culture (Combined)	6	.822	Good
Informal Culture (Combined)	5	.793	Acceptable
Environmental Culture (Combined)	5	.815	Good
School Culture (Overall)	16	.914	Excellent

Reliability varied from acceptable to excellent for all scales. The environmental meanings scale (α=.702) showed an acceptable level even though it had only two items. The scale measuring overall school culture showed excellent reliability (α=.914), which supported the construct validity of the operationalization of the integrative model.

Table 4: *Convergent Validity*

Construct	Items	Cronbach's α	CR	AVE	√AVE
Formal Meanings (FM)	3	.709	.838	.633	.796
Formal Practices (FP)	3	.869	.866	.683	.827
Informal Meanings (IM)	3	.744	.854	.662	.813
Informal Practices (IP)	2	.727	.880	.786	.886
Environmental Meanings (EM)	2	.702	.862	.757	.870
Environmental Practices (EP)	3	.884	.874	.698	.836

AVE for all constructs is greater than .50; hence, convergent validity exists for all constructs, which is a good base for testing the discriminant validity that will be examined in the paragraphs below.

Table 5: *Discriminant Validity: Fornell–Larcker Criterion*

	FM	FP	IM	IP	EM	EP
FM	0.796					
FP	0.616	0.827				
IM	0.638	0.718	0.813			
IP	0.458	0.393	0.532	0.886		
EM	0.568	0.549	0.481	0.606	0.870	
EP	0.538	0.603	0.550	0.412	0.574	0.836

Bold Diagonal (√AVE). In this case, discriminant validity exists for all. The value of √AVE is larger than its row and column correlations. For FP–IM, this difference is marginal (.718 vs. .827/.81

Table 6: *HTMT Ratio*

	FM	FP	IM	IP	EM	EP
FM	—					
FP	0.822	—				
IM	0.781	0.738	—			
IP	0.634	0.518	0.726	—		
EM	0.816	0.757	0.677	0.784	—	
EP	0.720	0.772	0.711	0.541	0.790	—

All HTMT values are below 0.85, satisfying the strict criterion for discriminant validity.

Table 7: *CFA Model Fit Indices*

Index	Acceptable Range	Value	Interpretation
χ^2/df (CMIN/DF)	≤ 3.00 (good); ≤ 5.00 (acceptable)	2.36	Good
CFI	≥ 0.90 (acceptable); ≥ 0.95 (good)	0.942	Acceptable
TLI	≥ 0.90 (acceptable); ≥ 0.95 (good)	0.931	Acceptable
GFI	≥ 0.90	0.913	Acceptable
AGFI	≥ 0.85	0.887	Acceptable
NFI	≥ 0.90	0.918	Acceptable
RMSEA	≤ 0.08 (acceptable); ≤ 0.06 (good)	0.057	Good
SRMR	≤ 0.08	0.046	Good

CFA revealed good model fit for all the model fit criteria. All the indices of model fit have satisfied the minimum required value of the respective criterion (χ^2/df = 2.36, CFI = 0.942, TLI = 0.931, GFI = 0.913, AGFI = 0.887, NFI = 0.918, RMSEA = 0.057, and SRMR = 0.046).

Table 8: *Paired Samples t-Tests: Meanings vs. Practices (N = 380)*

Dimension	Meanings M	Practices M	Mean Diff	SD Diff	t	df	p	Cohen's d	Sig
FC	12.166	11.618	0.547	2.170	4.918	379	<.001	0.252	***
IC	11.876	7.721	4.155	2.081	38.917	379	<.001	1.996	***
EC	7.787	11.313	−3.526	2.254	−30.503	379	<.001	−1.565	***

All three dimensions had a statistically significant difference ($p < .001$), although in different sizes and directions. Informal dimension had the largest gap size ($d = 2.00$, "very large" effect size), where teachers had very high collegiality beliefs which greatly outweighed their collegial actions. Environmental dimension had a very large, but negative gap ($d = -1.57$). This suggests that there were more environmentally-oriented actions in schools than the perceptions of teachers about them. Formal dimension had a very small gap ($d = 0.25$).

Table 9: *Distribution of Culture-Practice Gaps (N = 380)*

Dimension	Positive Gap (M>P)	Zero Gap (M=P)	Negative Gap (M<P)
Formal	171 (45.0%)	110 (28.9%)	99 (26.1%)
Informal	365 (96.1%)	5 (1.3%)	10 (2.6%)
Environmental	24 (6.3%)	15 (3.9%)	341 (89.7%)

Distribution shows common patterns for informal and environmental gaps. Almost all teachers (96.1%) have indicated informal meaning gap where informal meanings are greater than informal practices, while almost all teachers (89.7%) have indicated environmental practice gap where environmental practices are greater than environmental meanings. There is relatively even distribution for formal gaps.

Table 10: *Correlation Matrix: School Culture Dimensions (N = 380)*

	FM	FP	IM	IP	EM	EP	FC	IC	EC	SC	FG	IG	EG
FM	1.000												
FP	.607***	1.000											
IM	.635***	.708***	1.000										
IP	.457***	.387***	.533***	1.000									
EM	.568***	.547***	.481***	.604***	1.000								
EP	.538***	.598***	.542***	.409***	.577***	1.000							
FC	.883***	.909***	.751***	.468***	.621***	.635***	1.000						
IC	.635***	.647***	.907***	.840***	.609***	.551***	.715***	1.000					
EC	.615***	.647***	.580***	.545***	.834***	.932***	.705***	.643***	1.000				

SC	.806***	.832***	.832***	.682***	.774***	.796***	.914***	.873***	.882***	1.000			
FG	.333***	−.547***	−.171**	.023	−.051	−.143**	−.148**	−.098	−.119*	−.139**	1.000		
IG	.317***	.462***	.665***	−.278***	.012	.255***	.439***	.288***	.177***	.343***	−.214***	1.000	
EG	−.200***	−.290***	−.275***	−.013	.099	−.755***	−.276***	−.183***	−.466***	−.350***	.134**	−.300***	1.000

*p < .05, **p < .01, ***p < .001*

Key findings include: (1) high correlation of meanings and practice for formal (r = .607) and environmental (r = .577) dimensions, but moderate correlation for informal dimensions (r = .533); (2) high correlation for combined culture dimension (r = .643-.715); (3) school culture negatively associated with formal gap (r = -.139) and environmental gap (r = -.350), but positively associated with informal gap (r = .343); and (4) gap dimensions were weakly associated with each other.

Table 11: *Independent Samples t-Test: Gender Differences (N = 380)*

Variable	Male M (SD)	Female M (SD)	t	df	p	Sig
Formal Meanings	11.86 (2.24)	12.37 (2.30)	−2.172	378	.031	*
Formal Practices	11.28 (2.50)	11.85 (2.61)	−2.124	378	.034	*
Informal Meanings	11.59 (2.21)	12.07 (2.45)	−1.966	378	.050	ns
Informal Practices	7.47 (1.71)	7.89 (1.90)	−2.210	378	.028	*
Environmental Meanings	7.42 (1.79)	8.03 (1.78)	−3.260	378	.001	**
Environmental Practices	10.91 (2.71)	11.58 (2.75)	−2.363	378	.019	*
Formal Culture	23.13 (4.24)	24.22 (4.40)	−2.397	378	.017	*
Informal Culture	19.05 (3.46)	19.96 (3.80)	−2.365	378	.018	*
Environmental Culture	18.33 (4.02)	19.61 (4.03)	−3.049	378	.003	**
School Culture	60.51 (10.42)	63.79 (10.86)	−2.932	378	.004	**
Formal Gap	0.58 (2.11)	0.53 (2.21)	0.231	378	.817	ns
Informal Gap	4.12 (1.90)	4.18 (2.20)	−0.281	378	.779	ns
Environmental Gap	−3.49 (2.21)	−3.55 (2.28)	0.278	378	.781	ns

Female teachers reported significantly higher perceptions across all cultural dimensions except informal meanings (marginally significant, p = .050). However, gap magnitudes did not differ by gender, suggesting that while females perceived more positive cultures, they experienced equivalent discrepancies between meanings and practices.

Table 12: *One-Way ANOVA: Differences by School Type (N = 380)*

Variable	Type 1 M	Type 2 M	Type 3 M	F	df	p	Sig
Formal Meanings	12.00	11.73	12.50	4.089	2, 377	.018	*
Formal Practices	11.27	11.18	12.06	5.146	2, 377	.006	**
Informal Meanings	11.54	11.52	12.26	4.608	2, 377	.011	*
Informal Practices	7.33	7.25	8.21	12.581	2, 377	<.001	***
Environmental Meanings	7.50	7.28	8.23	11.062	2, 377	<.001	***
Environmental Practices	10.99	10.59	11.90	8.570	2, 377	<.001	***
Formal Culture	23.27	22.91	24.56	5.721	2, 377	.004	**
Informal Culture	18.87	18.77	20.47	9.926	2, 377	<.001	***
Environmental Culture	18.50	17.87	20.13	12.071	2, 377	<.001	***
School Culture	60.63	59.55	65.16	11.270	2, 377	<.001	***
Formal Gap	0.73	0.55	0.44	0.581	2, 377	.560	ns
Informal Gap	4.22	4.27	4.06	0.400	2, 377	.670	ns
Environmental Gap	−3.49	−3.31	−3.67	0.843	2, 377	.432	ns

Note: Type 1= Boys Schools, Type 2 = Girls Schools, Type 3= Mixed Schools

School Type 3 was always more successful than Types 1 and 2 in terms of all cultural dimensions, especially concerning informal behavior (8.21 compared to 7.33 and 7.25), and meaning of the environment (8.23 compared to 7.50 and 7.28). Nevertheless, there were no differences in terms of magnitudes of gaps for any school type

Table 13: *One-Way ANOVA: Differences by School Category (N = 380)*

Variable	Cat 1 M	Cat 2 M	Cat 3 M	Cat 4 M	F	df	p	Sig
Formal Meanings	12.38	12.14	11.71	12.26	1.449	3, 376	.228	ns
Formal Practices	11.79	11.50	11.36	11.70	0.546	3, 376	.651	ns
Informal Meanings	12.06	12.02	11.19	12.05	2.692	3, 376	.046	*
Informal Practices	7.91	7.68	7.25	7.89	2.360	3, 376	.071	ns
Environmental Meanings	8.02	7.51	7.49	7.97	2.434	3, 376	.065	ns
Environmental Practices	11.65	11.09	10.60	11.66	3.049	3, 376	.029	*
Formal Culture	24.17	23.64	23.07	23.96	1.106	3, 376	.347	ns
Informal Culture	19.97	19.70	18.44	19.94	3.229	3, 376	.023	*
Environmental Culture	19.67	18.60	18.09	19.64	3.408	3, 376	.018	*
School Culture	63.81	61.94	59.60	63.54	2.839	3, 376	.038	*
Formal Gap	0.59	0.64	0.35	0.56	0.287	3, 376	.835	ns
Informal Gap	4.15	4.34	3.93	4.16	0.531	3, 376	.661	ns
Environmental Gap	−3.63	−3.58	−3.11	−3.69	1.115	3, 376	.343	ns

Note: Cat 1 = Campus Schools, Cat 2 = Merged Schools, Cat 3 = Adopted Schools, Cat 4 = Branch Schools

Category 3 School had lower scores for many dimensions, such as informal meanings,

environmental practice, informal culture, environmental culture, and school culture. On the other hand, Categories 1 and 4 had similar profiles, implying that middle-level categories have specific cultural difficulties.

Table 14: *One-Way ANOVA: Differences by Teaching Experience (N = 380)*

Variable	Exp 1 M	Exp 2 M	Exp 3 M	Exp 4 M	F	df	p	Sig
Formal Meanings	12.52	12.01	11.77	12.36	1.880	3, 376	.132	ns
Formal Practices	11.68	11.64	11.38	11.70	0.209	3, 376	.890	ns
Informal Meanings	11.86	11.93	11.35	12.40	1.810	3, 376	.145	ns
Informal Practices	7.75	7.85	7.27	7.81	1.520	3, 376	.209	ns
Environmental Meanings	7.89	7.80	7.33	8.09	1.822	3, 376	.143	ns
Environmental Practices	11.59	11.31	10.87	11.23	0.905	3, 376	.439	ns
Formal Culture	24.21	23.65	23.15	24.06	0.887	3, 376	.448	ns
Informal Culture	19.61	19.77	18.62	20.21	1.988	3, 376	.115	ns
Environmental Culture	19.48	19.11	18.20	19.32	1.347	3, 376	.259	ns
School Culture	63.30	62.53	59.97	63.60	1.471	3, 376	.222	ns
Formal Gap	0.84	0.38	0.38	0.66	1.156	3, 376	.327	ns
Informal Gap	4.12	4.08	4.08	4.60	0.807	3, 376	.491	ns
Environmental Gap	−3.69	−3.52	−3.53	−3.15	0.642	3, 376	.588	ns

Note: Exp 1 = 0-5 years, Exp 2 = 6-15 years, Exp 3 = 16-25 years, Exp 4 = More than 25 years

There were no statistically significant differences on the basis of teaching experience, implying that cultural perceptions and differences tend to be consistent regardless of where one is in their career path. This finding goes against previous literature which claims that novice and experienced teachers might experience cultures in different ways.

Discussion

The study employed the Integrative Model of School Culture proposed by Cucchiara et al. (2025) to investigate the culture-practice gap in Sindh Government Schools in Karachi, Pakistan. Following are the five main findings of the study.

First, the research instrument showed adequate reliability and construct validity. Internal consistency reliability was checked with the help of Cronbach's alpha in SPSS. Coefficients were found between .702 and .914 which indicates acceptable to excellent reliability considering the fact that Taber's (2018) extensively used methodology paper reports that 0.70 is usually considered an acceptable cutoff point for reliability in educational research tools. In order to check construct validity, SmartPLS was used. Convergent validity of the measurement model proved to be satisfactory because indicator loadings, composite reliability (CR) and average variance extracted (AVE) were higher than threshold values. Recently, some researchers have suggested that alpha and CR estimates should be considered together with the construct validity evidence especially when talking about multidimensional constructs in educational researches. Discriminant validity of the model was checked by means of Fornell-Larcker criterion and heterotrait-monotrait (HTMT) ratio. The results proved that six dimensions reflect different concepts. The findings provide evidence on the usefulness of Cucchiara et al.'s (2025) integrative framework in the context of Sindh Government Schools in Karachi.

Secondly, the results showed that culture–practice gaps were observed in all three cultural

dimensions; nevertheless, the size and orientation were quite different. There was an insignificant positive gap between formal culture, a very large positive gap between informal culture, and an important negative gap between environmental culture. Such observations agree with the ideas proposed by Cucchiara et al. (2025), where school culture is presented as a multilevel process composed of various interacting dimensions rather than a homogeneous one-dimensional entity. School culture has been perceived as a unidimensional and/or differentiated construct related to school efficiency and performance in previous research (Deal & Peterson, 2016; Gruenert & Whitaker, 2021). In recent times, there has been a new evidence-based psychometric validation of the scale that measures the concept of school culture (Tsirantonaki & Vlachou, 2026). This work provides support for considering school culture as a dynamic multidimensional system.

Third, informal culture became the area of misalignment between culture and practice that stood out more than others. The respondents were strongly convinced about collegiality, collaboration and professional relations, however they felt that these aspects of collaboration were underdeveloped at their institutions. This finding fits well into the recent findings about the continuing limitations on teacher collaboration posed by hierarchical structure, workload and lack of collaborative planning time. It has been found through qualitative research in secondary schools that hierarchical orthodoxy between leaders and followers poses significant restrictions to teacher collaboration in a school setting, while the OECD's TALIS 2024 results revealed that teacher participation in decision-making processes related to the institution, which would be an indicator of collaboration, varies a lot from system to system, and it is the highest for decisions related to teachers' own classroom and lowest for overall institution governance. Likewise, in recent Pakistani literature, school climate, collegiality support, and workload have been found as critical elements affecting the teaching professionals' experience at public schools, with school climate and collegial support repeatedly proving to be significant determinants of the sense of support and satisfaction among teachers (Rashid & Ch., 2025). In contrast with past research, the current study measures the magnitude of this disparity through detecting an extremely wide gap between culture and practice, implying that teachers' dreams of collaboration do not get reflected in reality.

Fourth, a unique feature of environmental culture was its implementation surplus, wherein teachers indicated that organizational practices went beyond the meaning attached to them culturally. This finding aligns with the institutional approach, and specifically the notion of organizational decoupling put forward by Meyer & Rowan (1977). It states that organizations tend to adopt externally defined practices to legitimize themselves without internalizing the related culture. Similar trends have been observed in contemporary research on educational policy making, where researchers found that schools react to the policies of accountability in an external way, which does not necessarily mean any change in teaching or curriculum practices (Giani et al., 2025), which has been described by the authors as curricular-credential decoupling. In this context, it can be inferred that Sindh Government Schools might have adopted compliance with external demands procedurally but not culturally.

Fifth, demographic and institutional factors demonstrated selective relationships with perceptions of school culture among the surveyed teachers. Females demonstrated significantly higher levels of positive perceptions of cultural features compared to males. Such findings are consistent with recently obtained evidence regarding gender differences in collaborative orientation at school (UNESCO, 2025). As seen from global monitoring data based on TALIS surveys, a collaborative school culture of mutual support is perceived as more important among females than among males in a wide range of upper-middle- and high-income countries (UNESCO, 2025). Similarly, school type was significantly related to teachers' cultural perceptions, and certain types of schools exhibited better cultural alignment. However, neither gender, nor school type had significant effect on culture–practice gaps, which indicates that despite differences in perceptions across demographic and institutional factors, discrepancies in cultural meanings and practices are structural and rooted in the organization.

Theoretical Implications

The findings have made contributions to the integrative model of school culture put forward by Cucchiara et al. (2025) in three areas. First, they provide evidence on how applicable the model is in the case of Sindh Government Schools in Pakistan in comparison to developed contexts. Second, the direction of culture-practice gaps is important in terms of diagnostics, where positive gaps point to problems with implementation, whereas negative gaps indicate problems with internalization. Third, the weak interrelationships between the dimensions of the gaps show that the components of culture are not related to each other.

Practical Implications

The findings have critical implications for policy makers and school administrators in Sindh Government Schools. The large difference in informal culture implies that there is a need to improve teacher collaboration through professional learning communities, collaboration time, distributed leadership, and collegiality. The surplus in environmental culture implies that there is a need to move away from an accountability approach based on compliance and embrace an approach that builds capacity and involves teachers in the interpretation and implementation of education policies. The small difference in formal culture implies that there is no need for fundamental changes but just implementation improvements.

Limitations and Future Directions

There are a number of limitations to the current study. The cross-sectional design makes causal inference impossible and longitudinal study design will be necessary to observe the dynamics of the gaps and their effects on organizational performance. There is also a potential for common method bias due to the use of self-reports by teachers, and future research should include other sources of data such as observations and different raters.

Future work could focus on investigating whether the presence of culture-practice gaps can predict the academic performance of students, teacher retention, or even success in reforms implementation. Moreover, qualitative studies could provide insights into mechanisms of how such gaps emerge, persist, and can be narrowed. Comparative analysis across countries with different institutional environments could also add to understanding of context influences.

Conclusion

This study demonstrates that school culture in Pakistani government schools is characterized by systematic, multidimensional misalignment between meanings and practices. Applying Cucchiara et al.'s (2025) integrative model reveals that informal culture suffers from profound aspiration deficits, environmental culture exhibits ritualistic implementation surpluses, and formal culture maintains relative alignment. The research instrument demonstrated strong reliability and validity, supporting the cross-cultural applicability of the integrative framework.

These patterns are robust across gender and experience levels but vary by school type and category. The findings underscore the inadequacy of unidimensional conceptualizations of school culture for diagnostic and intervention purposes. Effective cultural improvement in Pakistani government schools requires precise targeting: building collaborative infrastructure for informal practices, redesigning environmental sense-making processes, and maintaining formal policy coherence. The integrative model provides the analytical precision necessary for such targeted approaches, offering a framework that can guide both research and practice in resource-constrained educational contextsschools requires precise targeting: building collaborative infrastructure for informal practices, redesigning environmental sense-making processes, and maintaining formal policy coherence. The integrative model provides the analytical precision necessary for such targeted approaches, offering a framework that can guide both research and practice in resource-constrained educational contexts.

Recommendations

- Establish Professional Learning Communities (PLCs) to strengthen teacher collaboration and reduce informal culture gaps.
- Allocate dedicated collaborative planning time within the school timetable.
- Train head teachers in instructional and collaborative leadership practices.
- Shift from compliance-based monitoring to

supportive supervision through coaching and mentoring.

- Involve teachers in school-level decision-making to enhance ownership of educational reforms.
- Align school policies with classroom realities to improve the implementation of formal culture.
- Provide continuous professional development on collaboration, leadership, and organizational culture.
- Develop a multidimensional school culture assessment system based on Cucchiara et al.'s (2025) framework.
- Recognize and reward collaborative and innovative teaching practices to reinforce positive school culture

Conflict of Interest

The author(s) declare that there are no conflicts of interest regarding the publication of this study.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

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