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Development and Cross-Validation of a Student-Perceived Homework Assignment Practices Scale among Ghanaian in-School Adolescents

Inuusah Mahama
imahama@uew.edu.gh
University of Education, Winneba
Osman Muntar Habib
University of Education, Winneba
Gifty Dankwah
University of Education, Winneba
Azumah Gershon
University of Education, Winneba

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Abstract

This study developed and cross-validated a student-perceived measure of homework assignment practices among in-school adolescents in selected the Senior High Schools in the Central of Ghana. A theory-informed 20-item pool was derived from the homework-design literature and administered on a five-point response scale. After data screening, 600 respondents were retained. The sample was randomly divided into development (n = 300) and validation (n = 300) subsamples. Principal-axis exploratory factor analysis with promax rotation, supported by Kaiser-Meyer-Olkin and Bartlett diagnostics and 1,000-replication parallel analysis, indicated four related domains. Item reduction produced a 15-item measure. A correlated four-factor confirmatory model in the untouched validation sample showed acceptable fit, χ^2 (84) = 162.30, $p < .001$, CFI = .925, TLI = .906, RMSEA = .056, 90% CI [.043, .069], SRMR = .058, and fit substantially better than a one-factor model. Total-score internal consistency was α = .81; subscale coefficients ranged from .65 to .75. Factor distinctiveness was supported by HTMT values from .29 to .53. The HAPS-15 offers a concise framework for studying homework as an instructional design practice rather than a simple quantity of assigned work.

Introduction

Homework takes a major place in schooling (De Haan et al., 2023; Nyback, 2020). Homework is allocated by teachers but accomplished by learners largely outside schooling hours and not under the immediate supervision of teachers. This practice is planned to extend classroom learning to the home where the process is shaped by the conditions at home, motivation of the learners, time availability, and task clarity (Lamichhane, 2024; Rahmani et al., 2024). Together, these home processes make homework common and as well contested. Syntheses of literature aligns homework to an increase in achievement among learners but with variations in grade level, subject, design, and the way homework is measured (Avcı & Özgenel, 2025; Cooper et al., 2006; Fan et al., 2017; Xu & Corno, 2022). By implication, homework is about what is assigned by teachers and the kind of experience expected from the learners.

Extant literature treats homework as an amount regarding minutes, frequency, completion, or quantity (Dolean & Lervag, 2022; Guo et al., 2024). Although easy to record, these indicators are inadequate descriptions of an instructional practice. For instance, Epstein and Van Voorhis (2001) advocated for designing from assigning homework. Their argument dwells on the fact that homework practice should be on purpose, communication, task format, family and student involvement, and the instructional use of completed work. That distinction has become increasingly important as studies have shown that students' perceptions of homework quality are related to motivation, effort, emotion, self-regulation, and achievement (Dettmers et al., 2010; Feiss et al., 2025; Trautwein & Lüdtke, 2009; Xu et al., 2021).

The expression 'student-perceived' is consequential rather than cosmetic. Prospectively, teachers' may carefully plan homework yet, still be students may perceive them to be unclear, unnecessary, tedious, disconnected from classroom instruction, or unresponsive to their circumstances (Cheraghi & Rahimi, 2024; Fonzo, 2025; Tolman et al., 2023). Conversely, students can recognise when tasks are purposeful, practicable, motivating, and followed by useful feedback. Therefore, student narratives capture the skilled instructional setting, which is the environment to which students respond (Dawson et al., 2021; Malecka & Boud, 2023). Accordingly, research on homework adopts perceptions held by students the quality, autonomy support, teacher involvement, and feedback regarding homework (Fonzo, 2025; Xu, 2024; Xu et al., 2021).

Numerous recognised measures on homework focus on some parts of the homework process. For example, the Xu's Homework Management Scale assesses how students organise their learning environment, time management, curtailing distractions, monitor motivation, and regulate emotion in the homework process (Xu, 2008). Likewise, some of such inventories focus on purposes, teacher involvement, homework expectancy and value, feedback, or autonomy support (Xu et al., 2026; Xu, 2023). Although these inventories present valuable indicators to homework, they are narrow and do not offer homework issues that are directly represented and narrated by students.

The difference is advantageous because quality is assumed divergently. It is important to note that a teacher can develop a clear and an important assignment but may be difficult, poorly timed, never reviewed, and sometimes unfairly assessed. In a study, Dettmers et al. (2010) found homework to be related to students' motivation and behaviour regarding homework although there were some complex challenges. Likewise, Xu (2024) study revealed perceived homework quality and autonomy support as positive correlate of perceived feedback quality of teacher. By implication, the suggests that homework design is not be designed to portray 'good' or 'bad' homework. Rather, homework should possess distinguishable characteristics of the design and the process of follow-through.

This case is particularly relevant in contexts where literature on homework appear scanty. Most of these homework inventory literatures are developed from contexts different from the current situation. Regardless, in Ghana, a contextual homework scale need not assume that homework works contrarily just because the location is diverse; nor should it assume that instruments developed elsewhere automatically capture local practice. Scale development is strongest when construct definition, item content, dimensionality, reliability, and validity evidence are made explicit rather than inferred from face plausibility alone (Boateng et al., 2018; Carpenter, 2018; Jacobs & Wallach, 2021; Lambert & Newman, 2023; Lim et al., 2026; Worthington & Whittaker, 2006).

With the current study, student-perceived homework assignment practices were defined as students' judgements about how teachers communicate, calibrate, connect, follow up, and assess work intended for completion outside normal class time. This is based on Epstein and Van Voorhis (2001) assertion, where homework assignment practices are informed quality, challenge, feedback and engagement. In the Ghanaian context, homework prepared by teachers for students to execute from their homes must be purposeful and meet all the facets clarity, alignment with classroom learning, difficulty and workload, review and feedback, interest and variety, and responsiveness and fairness (Fonzo, 2025; Lamichhane, 2024). The employed

assumption was that these content areas might condense empirically into a smaller number of related dimensions and not like a single homogenous factor.

The scale was developed from the views of students for two reasons. One, they are the beneficiaries of the design choices being measured. Two, their insights are possible to be proximal to homework behaviour as this is shaped by how work demands are interpreted, not only by how teachers plan them. The scale was therefore meant for students and not to assess teachers. The scale is envisioned for research and formative inquiry into the quality of homework assignment practices as experienced by in-school adolescents.

The study was guided by three objectives. First, it examined the latent structure of a theory-derived 20-item pool in a development sample of Ghanaian adolescents. Second, it cross-validated the emergent structure in an independent holdout sample. Third, it evaluated score reliability and preliminary evidence of factor distinctiveness. Following scale-development guidance, exploratory and confirmatory analyses were separated so that the same observations were not used both to discover and to confirm the factor structure.

Methods and Materials

Design and setting

A cross-sectional instrument-development design was used (Cherry, 2019; Hall, 2008). The data were collected from adolescents attending selected secondary schools in the Central Region. The Central Region, an ancient province in Ghana hosts a number of secondary schools and presents a rich justification for usage in this study (Oppong & Essiaw, 2024; Osei-Tutu, 2018).

Participants

The study randomly recruited 600 in-school adolescents in the selected schools. Of these, 305 (50.8%) were male in-school adolescents and 295 (49.2%) female in-school adolescents. Their ages were categorized as 12–14 years (n = 103, 17.2%), 15–17 years (n = 387, 64.5%), 18–20 years (n = 79, 13.2%), and above 20 years (n = 31, 5.2%). Practically, form one to form three levels were captured. Specifically, their sample contribution is form 1 (n = 235, 39.2%), form two (n = 362, 60.3%), and form 3 (n = 3, .5%). The very small form three occurred because were unwilling because they were sitting their final exams and needed no distractions in their personal preparation and studies. In this regard, their count is retained descriptively but precludes meaningful grade-level invariance analysis. The courses that the students had enrolled were General Arts (n = 198), Home Economics (n = 141), Business (n = 132), Visual Arts (n = 80), and other programmes (n = 49).

Item development and content grounding

Extensive literature was reviewed to guide the development of the items. The initial Homework Assignment Practices item pool contained 20 positively worded statements rated from 1 (strongly disagree) to 5 (strongly agree). Item content sampled clarity of instructions and purpose, connection to taught content and real life, difficulty and workload, review and feedback, interest and motivation, variety, attention to students' circumstances, and fairness in grading. The items were reviewed two by experts: an educational psychologist and a measurement and evaluation scholar for content and measurement appropriateness. The development followed recommended contemporary steps in scale-development as proposed by Boateng et al. (2018). Therefore, this study assumes the scale is a theory-derived scale exposed to initial pragmatic development and cross-validation processes.

Data screening and analytic plan

Prior to the data analyses, data screening was performed in four stages. First, responses outside the permitted 1–5 range were set to missing. Across the 20 homework items, 14 responses were missing or out of range after screening. Eleven students had one affected item and one student had three; thus, every retained case had at least 85% of the homework items available. Missing item values were replaced with that respondent's mean across available homework items. Person-mean substitution was restricted to cases meeting the ≥ 80% completion rule so that imputation did not dominate any individual score. Second, item distributions were examined for severe skew or kurtosis. Third, the N = 600 analytic sample was randomly divided, using a fixed random seed for reproducibility, into a development sample (n = 300) and a holdout validation sample (n = 300). Fourth, all item-reduction decisions were made from the development sample before testing the proposed model in the holdout sample.

The Analyses were conducted through Python 3.11 and SPSS. The data management and psychometric analyses were made possible through pandas and NumPy for data handling, SciPy for distributional and optimisation procedures, and statsmodels for principal-axis factor extraction and promax rotation. First, exploratory factor analysis (EFA) was performed using principal-axis factoring because the aim was to model common variance (Ledesma et al., 2021; Schreiber, 2021; Sürücü et al., 2022). The Kaiser-Meyer-Olkin (KMO) statistic and Bartlett's test of sphericity were used to assess whether the correlation matrix contained sufficient shared variance for factor analysis (Shrestha, 2021). Factor retention was guided primarily by parallel analysis with 1,000 random datasets, rather than the eigenvalue-greater-than-one rule alone, because parallel analysis performs better as a factor-retention method (Hayton et al., 2004). Promax rotation was used because dimensions of homework design were expected to correlate. Items were evaluated using a combination of statistical and substantive criteria: a salient primary loading around .30 or higher, limited problematic cross-

loading, a difference of approximately .20 or more between the strongest and next loading where possible, and preservation of conceptual breadth. Redundant items were not retained merely to increase item count.

Second, confirmatory factor analysis (CFA) was then conducted in the untouched holdout sample. A correlated-factor maximum-likelihood model was estimated from the Pearson correlation matrix using SciPy optimisation. Five-category item distributions showed no extreme univariate non-normality in the retained items, which supported this initial ML analysis; nonetheless, an ordinal estimator such as WLSMV should be used as a sensitivity analysis in an independent replication. Model fit was evaluated using χ^2, comparative fit index (CFI), Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA) with a 90% confidence interval, and standardised root mean square residual (SRMR). Fit indices were interpreted jointly rather than as mechanical pass/fail rules. A one-factor model was tested as a theoretically meaningful alternative. Internal consistency was summarised with Cronbach's α, and CFA loadings were used to calculate composite reliability (CR) and average variance extracted (AVE). Heterotrait-monotrait ratios (HTMT) were used as evidence about factor distinctiveness.

Results

Preliminary item performance

The retained items used the full response range and showed means from 3.63 to 4.10. Absolute skewness was modest (all < 1.20 in magnitude), and no retained item showed extreme kurtosis. The pattern was therefore compatible with the planned common-factor analysis while still reflecting the expected tendency for students to evaluate routine teacher practices positively. Table presents the results.

Table 1

Item descriptives and validation-sample standardised loadings for the retained HAPS-15 items

Item	Abbreviated content	M	SD	Factor	CFA loading
HAP1	My teacher explains homework instructions clearly before we leave class.	3.80	0.99	Clarity/alignment	0.638
HAP2	I understand what is expected of me when I receive a homework assignment.	3.90	0.87	Clarity/alignment	0.807
HAP3	The purpose of each homework task is made clear to me.	3.81	0.90	Clarity/alignment	0.598
HAP4	Homework assignments relate directly to what was taught in class.	3.75	0.95	Clarity/alignment	0.565
HAP7	The homework is at a difficulty level appropriate for my abilities.	3.69	0.98	Manageability/load	0.369
HAP10	The amount of homework given is reasonable for the time I have.	3.73	0.99	Manageability/load	0.719
HAP11	I am able to complete homework without it interfering with rest or oth…	3.82	0.91	Manageability/load	0.547
HAP12	Homework is spaced out reasonably across different subjects.	3.63	1.03	Manageability/load	0.658
HAP14	I receive helpful feedback on my homework mistakes.	3.97	0.93	Feedback/engagement	0.607
HAP15	My teacher uses homework results to adjust how topics are taught.	4.00	0.93	Feedback/engagement	0.669
HAP16	The homework assignments are interesting to me.	3.92	0.90	Feedback/engagement	0.747
HAP17	I feel motivated to complete my homework.	4.10	0.89	Feedback/engagement	0.617
HAP18	Homework assignments include variety (not just repetitive tasks).	3.80	0.98	Responsiveness/fairness	0.653
HAP19	My teacher considers my circumstances (e.g., access to materials) when…	3.77	1.00	Responsiveness/fairness	0.622
HAP20	I feel I am treated fairly when homework is graded or assessed.	4.03	0.91	Responsiveness/fairness	0.640

Exploratory factor analysis in the development sample

The development-sample correlation matrix was factorable. The KMO index was .851, with all item-level measures of sampling adequacy above conventional concern thresholds. Bartlett's test was significant, $\chi^2(190) = 1{,}788.13$, $p < .001$. Parallel analysis retained four factors: the first four observed eigenvalues (5.61, 1.94, 1.59, and 1.37) exceeded the corresponding 95th-percentile eigenvalues from random data (1.58, 1.46, 1.38, and 1.32); the fifth observed eigenvalue (1.10) did not exceed its random benchmark (1.27). The four-factor result also made substantive sense because it separated communication/alignment, manageability, teacher follow-through, and responsiveness rather than forcing them into a single score.

Table 2

Promax-rotated principal-axis factor loadings in the development sample

Item	Clarity/alignment	Manageability/load	Feedback/engagement	Responsiveness/fairness	Retained	Reason if removed
HAP1	0.545				Yes	
HAP2	0.698				Yes	
HAP3	0.584				Yes	
HAP4	0.519				Yes	
HAP5	0.474	0.177	0.146	0.164	No	Content overlap with alignment/reinforcement items
HAP6	0.271	0.478	0.085	0.281	No	Diffuse loading; primary-to-secondary gap ≈ .20
HAP7		0.528			Yes	
HAP8		0.425	0.212	0.141	No	Weaker loading; redundant with manageability coverage
HAP9		0.517	0.230	-0.010	No	Conceptual overlap with difficulty/manageability items
HAP10		0.639				
HAP11		0.575				
HAP12		0.529				
HAP13	0.200	0.304	0.506	0.029	No	Cross-loading with manageability; overlap with feedback items
HAP14			0.646		Yes	
HAP15			0.704		Yes	
HAP16			0.635		Yes	
HAP17			0.562		Yes	
HAP18				0.625	Yes	
HAP19				0.633	Yes	
HAP20				0.667	Yes	

In Table 2, the retained items were interpreted as four related domains. Clarity and instructional alignment comprised four items concerning understandable instructions, expectations, purpose, and connection to taught content. Task manageability and load comprised four items covering appropriate difficulty, reasonable amount, compatibility with rest and other activities, and spacing across subjects. Feedback and engagement support comprised four items on useful feedback, instructional use of homework results, interest, and motivation. Responsiveness and fairness comprised three items on variety, attention to students' circumstances, and fair assessment. The reduction from 20 to 15 items was intended to improve parsimony without narrowing the construct to a single feature such as workload or feedback.

Cross-validation in the holdout sample

The four-factor HAPS-15 model was tested without re-estimating the exploratory structure in the holdout sample. Fit was acceptable across the absolute and incremental indices considered jointly: $\chi^2(84) = 162.30$, $p < .001$, CFI = .925, TLI = .906, RMSEA = .056, 90% CI [.043, .069], and SRMR = .058. Standardised loadings ranged from .369 to .807. The correlated four-factor specification clearly outperformed a one-factor model, which fit poorly, $\chi^2(90) = 484.20$, CFI = .620, TLI = .557, RMSEA = .121, and SRMR = .104. The result argues against treating student-perceived homework assignment practice as a simple unidimensional judgement. CFA factor correlations were appropriate between .294 and .514. Table 3 presents the results.

Table 3

Confirmatory model fit in the holdout sample

Model	χ^2	df	CFI	TLI	RMSEA	90% CI	SRMR
Four correlated factors	162.30	84	.925	.906	.056	[.043, .069]	.058
One factor	484.20	90	.620	.557	.121	—	.104

Reliability and factor distinctiveness

In all the 15-items, the composite internal consistency was α = .81. Dimensionally, EFA internal consistencies were .74 for clarity and alignment, .67 for manageability and load, .76 for feedback and engagement support, and .69 for responsiveness and fairness. Likewise, CFA, internal consistencies were .75, .67, .76, and .67 for the four factors, respectively. Although some coefficients were low, but their usability is not problematic based on the scholarly literature (Ritter, 2010).

Average variance extracted was .434 for clarity/alignment, .346 for manageability/load, .439 for feedback/engagement support, and .407 for responsiveness/fairness. None reached .50 but they still hold because the composite reliabilities are appreciable (Fornell & Larcker, 1981). In the face of this, it is not to indicate that the scale satisfied convergent validity through AVE, although factor loadings and reliability were generally usable for research purposes. The ratios of HTMT make the factors separable and different from one another with a range between .292 and .532. Table 4 presents the results.

Table 4
Reliability and preliminary construct-validity evidence

Scale/domain	Items	α	CR	AVE
Clarity and instructional alignment	4	.74	.75	.434
Task manageability and load	4	.67	.67	.346
Feedback and engagement support	4	.76	.76	.439
Responsiveness and fairness	3	.69	.67	.407
HAPS-15 total	15	.81	—	—

Discussion

The findings reposition homework from a simple question of whether work is assigned to a more consequential question of how that work is designed and subsequently experienced by students. The emerging structure suggests that adolescents do not perceive homework assignment practice as a single, homogeneous feature of schooling. Instead, they differentiate among the clarity and instructional alignment of assignments, the manageability of the workload, the quality of feedback and engagement support, and the responsiveness and fairness with which homework is designed and assessed. This distinction is theoretically important because much of the traditional homework literature has relied on indicators such as time spent, frequency, amount, or completion (Dolean & Lervag, 2022; Guo et al., 2024). Although such indicators describe the quantity of homework exposure, they do not adequately describe the quality of the instructional experience that homework creates.

This multidimensional interpretation is consistent with the broader evidence that the educational value of homework varies according to grade level, subject, task characteristics, instructional design, and measurement approach (Avcı & Özgenel, 2025; Cooper et al., 2006; Fan et al., 2017; Xu & Corno, 2022). Consequently, it is difficult to defend statements about homework being uniformly beneficial or harmful without considering how homework has been constructed. Epstein and Van Voorhis (2001) made this point forcefully by distinguishing homework that is merely assigned from homework that is deliberately designed. Their framework places emphasis on purpose, communication, task structure, student and family involvement, and the instructional use of completed work. The present findings extend that argument by showing that these design decisions are sufficiently salient for adolescents to distinguish among them in their own reports.

The first domain, clarity and instructional alignment, concerns the point at which classroom teaching is translated into work that students are expected to complete independently. An assignment can contribute meaningfully to learning only if students understand what they are expected to do, why they are doing it, and how the task connects to classroom instruction. This interpretation is closely aligned with Epstein and Van Voorhis's (2001) emphasis on explicit instructional purpose. It is also consistent with evidence linking homework quality with motivation, effort, homework behaviour, and achievement (Dettmers et al., 2010; Trautwein & Lüdtke, 2009; Xu et al., 2021). Clarity should therefore not be treated as a superficial feature of presentation. It is part of the instructional architecture through which students make sense of the task.

This finding also demonstrates why the student-perceived character of the scale matters. What teachers intend and what students experience need not coincide. Teachers may design a task they regard as clear, relevant, and appropriately demanding, yet students may experience the same work as disconnected from classroom instruction, ambiguous in purpose, or difficult to interpret. Conversely, students may recognise when assignments are meaningful, feasible, and connected to prior learning. Research on homework quality, autonomy support, feedback, and student perceptions increasingly supports the importance of examining the instructional environment as it is experienced by learners (Dawson et al., 2021; Fonzo, 2025; Malecka & Boud, 2023; Xu, 2024; Xu et al., 2021). Student reports therefore provide information that cannot be fully replaced by teacher reports of intended practice.

The second domain, task manageability and load, addresses a different aspect of homework quality: whether what has been assigned is realistically achievable within students' available time, resources, and competing obligations. This finding is important because difficulty is not synonymous with instructional quality. Tasks that are insufficiently challenging may offer little opportunity for learning, but assignments that exceed students' current

resources or available time can undermine persistence and increase disengagement. Dettmers et al. (2010) demonstrated that homework challenge can relate differently to motivation and achievement depending on how it is conceptualised and the level at which it is analysed. The present structure therefore supports a more defensible principle: effective homework is not necessarily more difficult homework; rather, it is homework whose demands are appropriately calibrated.

Manageability becomes particularly consequential because homework is generally completed outside the immediate supervision of teachers. Once the student leaves the classroom, the task encounters the realities of the home environment. Time availability, household responsibilities, access to learning resources, motivation, study conditions, and task clarity can all influence whether homework is completed productively (Lamichhane, 2024; Rahmani et al., 2024). A well-conceived academic task may consequently become a poorly designed homework assignment if it makes unreasonable assumptions about the circumstances in which students are expected to complete it. This reinforces the view that homework design includes not only the intellectual quality of the task but also its practical feasibility.

The third domain, feedback and engagement support, suggests that students regard what happens after homework has been completed as part of the assignment experience itself. This finding deserves particular attention because homework is often discussed as though its instructional function ends when the student submits the work. Epstein and Van Voorhis (2001), however, conceptualised follow-through as part of effective homework practice. When teachers review assignments, explain errors, discuss responses, or use completed work to modify subsequent instruction, students receive evidence that homework serves an instructional rather than merely administrative function.

Recent evidence supports this interpretation. Xu (2024) found that perceived homework quality and autonomy support were positively associated with perceptions of teacher feedback quality, while other studies have connected homework quality with motivation, effort, emotion, and self-regulatory processes (Dettmers et al., 2010; Feiss et al., 2025; Trautwein & Lüdtke, 2009; Xu et al., 2021). The present pattern therefore makes conceptual sense: students may experience engagement and feedback as related because assignments become more meaningful when the work they complete visibly enters subsequent teaching and learning.

It is nevertheless important not to infer a causal sequence from the factor structure. The present evidence does not show that feedback necessarily produces motivation or that engaging assignments cause students to value feedback. Instead, it suggests that these features are experienced as part of a common dimension of homework practice. This distinction is important because scale development concerns the organisation of perceptions, not the direction of influence among the underlying instructional processes.

The fourth domain, responsiveness and fairness, broadens the concept of homework quality beyond clarity, workload, and feedback. Students appear to distinguish whether assignments allow variety, take account of their circumstances and access to resources, and are assessed fairly. This dimension is especially important because homework transfers learning into settings that schools do not fully control. Students differ in access to technology, quiet study spaces, books, adult assistance, connectivity, discretionary time, and competing family responsibilities. A measure of homework quality that ignores these conditions risks evaluating only whether a task looks educationally appropriate on paper rather than whether it is reasonably assignable to the students expected to complete it.

The literature similarly indicates that students' perceptions of relevance, feasibility, teacher responsiveness, and instructional conditions affect how academic tasks are experienced (Cheraghi & Rahimi, 2024; Fonzo, 2025; Tolman et al., 2023). The present findings therefore support an interpretation of fairness that is more substantive than equal treatment. Fairness in homework may require sensitivity to differences in the circumstances under which students are expected to complete the same task. This does not imply abandoning common standards; rather, it suggests that equity should form part of the design logic of homework.

The emergence of this domain is especially relevant in the Ghanaian context. The argument for locally examining a homework-practice scale should not be that homework necessarily operates according to fundamentally different principles in Ghana. Such a claim would be unwarranted. The stronger argument is methodological: an instrument developed in one context should not automatically be assumed to represent how a construct is organised in another. Contemporary scale-development guidance emphasises that construct definition, content representation, dimensionality, reliability, and validity must be demonstrated rather than assumed from the apparent face validity of items (Boateng et al., 2018; Carpenter, 2018; Jacobs & Wallach, 2021; Lambert & Newman, 2023; Lim et al., 2026; Worthington & Whittaker, 2006). The present study contributes to this requirement by examining homework assignment practices through the experiences of Ghanaian adolescents rather than simply importing a structure established elsewhere.

An important conceptual contribution of the study is therefore the distinction between homework assignment practice and other established homework constructs. The Homework Management Scale, for example, assesses what students do after homework has been assigned: how they organise the learning environment, manage time, control distractions, monitor motivation, and regulate emotion (Xu, 2008). Other measures focus on autonomy support, feedback, expectancy, value, teacher involvement, or homework purpose (Xu, 2023; Xu et al., 2026). These constructs are valuable, but they occupy different parts of the homework process. The present scale is concerned primarily with students' judgements about the teacher-created assignment conditions that precede and accompany homework management. This distinction creates scope for future studies examining how assignment design interacts with student self-regulation rather than treating the two as interchangeable.

Conclusion

The study contributes to homework research by showing that adolescents distinguish among several aspects of assignment practice rather than treating homework quality as a single undifferentiated experience. The resulting structure reflects four related instructional concerns: clarity and alignment with classroom learning, task manageability and workload, feedback and engagement support, and responsiveness and fairness. Together, these domains provide a more differentiated account of homework than measures based principally on quantity, frequency, or time. At the same time, the psychometric evidence warrants measured conclusions. The cross-validated multidimensional structure provides a credible foundation for continued use and refinement of the HAPS-15, but the instrument should be regarded as an emerging research measure rather than a finalised scale.

Implications for Practice

The study has some important implications. First, it provides a measurement framework for moving beyond the dominant focus on homework quantity. Time, frequency, amount, and completion remain important variables, but they should not be treated as sufficient descriptions of homework practice. Two students may receive the same amount of homework and spend similar amounts of time on it while experiencing fundamentally different assignment conditions. One may receive clearly structured, appropriately challenging work that is subsequently reviewed, whereas another may receive poorly explained tasks with little instructional follow-through. A multidimensional assessment of assignment practices makes such differences empirically examinable.

Second, a multidimensional student-perception measure can help schools identify the specific aspects of homework that require attention. A class may report that homework is clearly aligned with instruction but difficult to complete within available time. Another class may experience assignments as manageable yet receive insufficient feedback. Such patterns provide more actionable information than a general question asking whether students like homework.

Teachers can use the four domains as a practical design checklist. Before assigning work, they can ask whether the purpose is clear, whether students understand what is required, and whether the task meaningfully extends classroom learning. They can also consider whether the difficulty and workload are realistic, whether students possess or can access the required resources, and whether the work can be completed within a reasonable period. After submission, teachers can consider whether feedback is sufficiently visible and useful for students to recognise that completed homework contributes to subsequent instruction.

Limitations and Priorities for Future Research

The study was conducted within a geographically restricted Ghanaian setting. The resulting structure should therefore not be assumed to represent homework experience across all regions, school systems, socioeconomic contexts, or educational levels in Ghana. Independent replication should include schools differing in location, ownership, resource availability, and student background. Such replication is particularly important for the responsiveness and fairness domain because the practical meaning of homework accessibility may differ considerably across contexts.

Declarations

Ethics approval

Ethical clearance for the study was obtained from the Department of Counselling Psychology, University of Education, Winneba (UEW-CPSY/EDU/2026). All participants provided informed consent. Participation was voluntary, and anonymity, confidentiality and the right to withdraw without penalty were protected. The ethical procedures were guided by the principles of the World Medical Association's Declaration of Helsinki, particularly respect for participants' autonomy, voluntary participation, informed consent, and protection of privacy and confidentiality (World Medical Association, 2025).

Consent to Participate

All respondents freely accepted to be recruited for this study.

Consent to Publish declarations

not applicable.

Data availability statement

The data is available from the corresponding author upon reasonable request, subject to ethical and confidentiality requirements.

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Conflict of interest

The authors declare no conflicts of interest.

Author Contribution

I.M.: Conceptualisation, methodology, instrument development, formal analysis, interpretation of findings, writing – original draft, and writing – review and editing. O.M.H.: Conceptualisation, methodology, instrument development and refinement, investigation, validation, interpretation of findings, and writing – review and editing. G.D.: Conceptualisation, methodology, investigation, data collection, data curation, formal analysis, validation, and writing – review and editing. A.G.: Conceptualisation, methodology, instrument validation, cross-validation, interpretation of findings, writing – original draft, and writing – review and editing. All four authors contributed equally to the overall development and completion of the study, critically reviewed the manuscript, approved the final version for publication, and agreed to be accountable for its content.

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Appendix

Appendix A

HAPS-15: Student-Perceived Homework Assignment Practices Scale

Instruction: Think about the homework you usually receive from your teachers. Indicate how much you agree with each statement: 1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree.

1. My teacher explains homework instructions clearly before we leave class.
2. I understand what is expected of me when I receive a homework assignment.
3. The purpose of each homework task is made clear to me.
4. Homework assignments relate directly to what was taught in class.
5. The homework is at a difficulty level appropriate for my abilities.
6. The amount of homework given is reasonable for the time I have.

7. I am able to complete homework without it interfering with rest or other activities.
8. Homework is spaced out reasonably across different subjects.
9. I receive helpful feedback on my homework mistakes.
10. My teacher uses homework results to adjust how topics are taught.
11. The homework assignments are interesting to me.
12. I feel motivated to complete my homework.
13. Homework assignments include variety (not just repetitive tasks).
14. My teacher considers my circumstances (e.g., access to materials) when assigning homework.
15. I feel I am treated fairly when homework is graded or assessed.

Scoring: Compute the mean of the items within each domain and, when justified by the research question, the mean of all 15 items for an overall student-perceived homework assignment practices score. Higher scores indicate more favourable perceived practice. The present evidence supports research use; cut scores for “low”, “moderate”, or “high” practice have not been established and should not be invented.

Domain keys: Clarity and instructional alignment = Items 1–4; Task manageability and load = Items 5–8; Feedback and engagement support = Items 9–12; Responsiveness and fairness = Items 13–15.

Figures

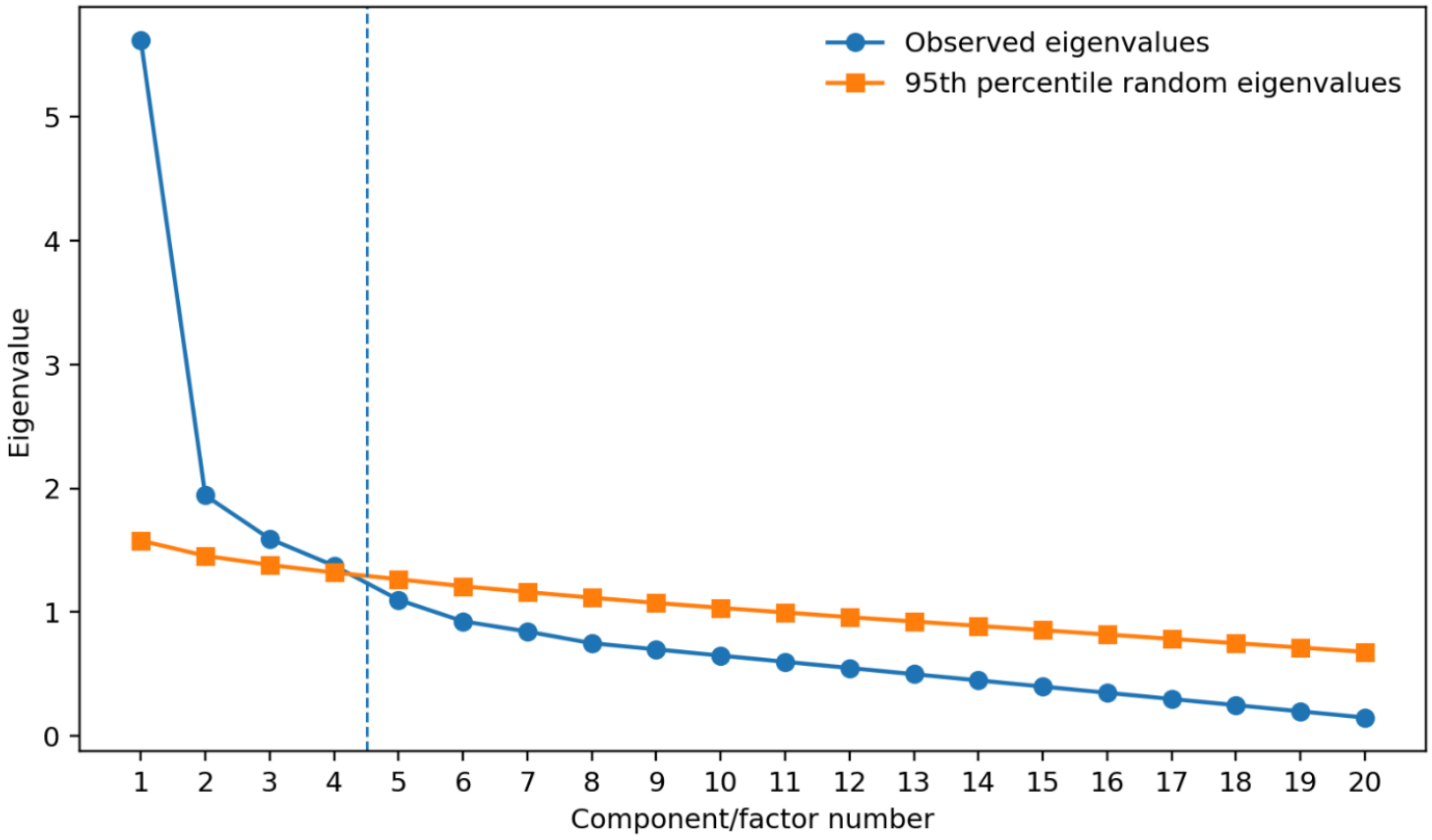


Figure 1

Parallel analysis in the development sample.