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Adaptation of the Teacher Homework Reasons Scale into Turkish and Development of the Teacher Homework Feedback Frequency Scale

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ABSTRACT

This research aims to adapt the Teachers Homework Reasons scale into Turkish and develop the Teachers Homework Feedback Frequency scale. The study involved 475 primary, secondary, and high school teachers from northeastern Turkey, with an average age of 41.25 years and an equal gender distribution. The sample was divided into two sub-groups: one underwent exploratory factor analysis (EFA) and the other confirmatory factor analysis (CFA). Concurrent validity analyses were conducted on all teachers. To assess concurrent validity, correlations were examined between the scales and the Teacher Perception of Homework Quality and Feedback on Homework Scale. Additionally, responses to the homework frequency and feedback frequency questions were analyzed. The scales used in the study were found to be valid on the dimensions of homework quality, feedback on homework, homework frequency and feedback frequency . The EFA and CFA analyses demonstrated that the Teachers Homework Reasons scale retained a similar structure to the original, confirming the success of the language and cultural adaptation (χ^2/df=2.495, CFI=.962, GFI=.910, TLI=.949, RMSEA=.079). The Teachers Homework Feedback Frequency scale showed a unidimensional structure as expected (X^2/df=2.471, CFI=.964, GFI=.935, TLI=.951, RMSEA= .079) and the internal reliability values were high (.878). These high internal reliability values prove that the items in the scale are homogeneously distributed and reliable. This study provides a vital resource for understanding teachers' homework-related practices in Turkey and using this information to shape educational policies. Furthermore, the results can be used to better understand the effects of cultural differences on these practices by providing comparable data with international literature.

Keywords:
Scale adaptation, scela development, teacher homework involvement,

1. Introduction

Homework is an instructional practice that takes place outside of school hours, serving four purposes: practice, preparation, participation, and personal development (Epstein & Van Voorhis, 2001). Cooper (1989, p. 7) defines homework as "tasks assigned to students by school teachers that are meant to be carried out during non-school hours". It is a crucial part of the daily routine for school-age children worldwide, with parents and teachers agreeing it is the primary after-school activity (Cooper et al., 2006). However, homework is only beneficial under certain conditions, without them, it often becomes a futile academic exercise. Factors such as student motivation, a conducive environment, and self-regulation skills are critical for homework to achieve its intended outcomes (Núñez et al., 2015b; Trautwein et al., 2009; Xu, 2016).

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The quality of homework significantly impacts not only student motivation but also its success. High-quality homework aligns with school learning goals, accommodates different student needs, provides clear instructions, challenges cognitive abilities, is meticulously planned, and is engaging for students (Cooper et al., 2006; Dettmers et al., 2010; Keane & Heinz, 2019; Trautwein et al., 2006; Trautwein & Lüdtke, 2007; Xu, 2013). Teachers are responsible for designing homework with these qualities. Teacher behaviors directly and indirectly influence students' homework behaviors (completion and time allocation) and academic achievement through homework motivation (Cooper et al., 2006; Trautwein & Köller, 2003). The relationship between these factors is well-documented in homework models developed by researchers (Cooper et al. 2001; Trautwein et al., 2006; Xu & Corno, 2022b).

The majority of literature on homework originates from Europe and North America. However, Turkey's unique cultural, social structure, and educational dynamics lead to different effects of homework on student behavior and academic achievement. Research results from Western countries cannot be directly applied to the Turkish context due to significant differences in educational approaches, teacher-student relationships, family structure, and the home learning environment. Thus, it is crucial to investigate the effectiveness of teachers' homework practices in Turkey to inform policy decisions for improving the education system. This study will conduct psychometric measurements to adapt one scale to Turkish and develop another to determine teachers' self-perceived homework assignment goals and feedback frequency.

1.1. Reasons for Assigning Homework

Teachers meticulously design homework assignments to ensure students acquire the targeted behaviors. As Epstein (2001) asserts, these assignments must be prepared appropriately, considering students' needs, skills, and family characteristics. Dettmers et al. (2010) demonstrate that well-organized homework increases students' motivation and homework-related behaviors. Epstein and Van Voorhis (2001, p. 181) categorize homework purposes into three groups: instructional, communicative, and political. Instructional purposes include practice (reinforcing learned knowledge), preparation (getting ready for the next lesson), participation (actively engaging in the learning process), and personal development (enhancing time management and self-regulation skills) (Cooper, 1989; Corno, 1996; Epstein & Van Voorhis, 2001; Xu & Corno, 1998). Communicative purposes involve improving parent-child relations, parent-teacher communications, and peer interactions. Political purposes address policy, public relations, and punishment.

Homework facilitates communication between students, parents, and teachers (Deslandes & Bertrand, 2005; Hoover-Dempsey & Sandler, 1997). Ashman and Gillies (2003) found that group homework assignments significantly increase students' peer communication. Kohn (2006) asserted that using homework as punishment negatively affects academic achievement. Epstein and Van Voorhis (2001) highlight the significant influence of politicians and other stakeholders on homework policies. Cooper et al. (2006) categorize homework into instructional and non-instructional types. Instructional reasons include practice, preparation, extension and integration. Extension involves applying previously learned information to new situations, while integration combines knowledge from different courses through projects and STEM applications. Non-instructional purposes include parent-child communication, political considerations, student punishment, and public relations. Trautwein et al. (2009) identified four main reasons for assigning homework: drill and practice, closing the achievement gap, motivation and self-regulation, school-home link. In an experimental study, Rosário et al. (2015) found that 'extension' homework was the most effective in increasing mathematics achievement, outperforming the 'practice' and 'preparation' types.

1.2. Homework Quality

Teachers must consider various essential qualities when designing effective homework assignments. Research indicates a strong relationship between well-prepared homework and students' homework behavior and academic achievement (Dettmers et al., 2010; Núñez et al., 2015a). Quality homework requires careful selection, preparation (Trautwein & Lüdtke, 2007), and detailed advance planning (Trautwein et al., 2006). Assignments should be neither too challenging nor too simple, with difficulty levels appropriate to students' cognitive capacities, as both extremes can negatively affect motivation (Dettmers et al., 2010). The amount of homework is also crucial. Cooper, Robinson, and Patall (2006) recommend a maximum of one hour per day for primary and middle school students and two hours for high school students. Quality homework must align with school learning goals (Cooper et al., 2006), and teachers should clearly define the assignment's

purpose and expectations (Epstein & Van Voorhis, 2012). Providing clear directions and guidelines is essential (Keane & Heinz, 2019). To maintain high student motivation, assignments should be of interest to the students (Trautwein & Lüdtke, 2007; Xu, 2013). Engaging and mentally challenging assignments are more effective in improving student achievement and self-regulation skills.

The frequency and quality of feedback are crucial in determining homework effectiveness. Teachers' practices include checking homework, providing feedback, organizing class discussions, praising or criticizing students, and grading homework (Cooper et al., 2001; Corno, 2000). Research shows that teachers prefer checking homework completion, reviewing it on the board, and discussing it in class (Cunha, Xu, et al., 2018; Zhu & Leung, 2012). Students are more likely to complete and invest effort in homework when they know their teachers will check it. Conversely, when assignments are not reviewed in class and students do not receive guidance on correcting mistakes, their effort decreases (Murillo & Martínez-Garrido, 2013; Trautwein et al., 2009). Núñez et al. (2015a) established a positive relationship between students' perceived teacher feedback and homework completion and time management. Feedback is invaluable for students to complete assignments correctly, learn from their mistakes, and improve future work.

1.3. The Present Study

The research includes the validity and reliability studies of the Teachers Homework Reasons scale, adapted into Turkish, and the newly developed Teachers Homework Feedback Frequency scale. To test the criterion validity of these scales, we used the Teacher Perception of Homework Quality and Feedback on Homework Scale (TPHQFH), developed by Taş (2019), which comprises two sub-dimensions: Homework Quality and Feedback on Homework. The study measured teachers' homework assignment and feedback frequencies with two questions: "How often do you assign homework?" and "How much time per week do you allocate to homework checking for each class?" Since the Teachers Homework Feedback Frequency scale measures the same constructs as the Feedback on Homework dimension of the TPHQFH, a high positive correlation between the two scales is expected. Similarly, a positive relationship is predicted between Feedback Frequency, measured with a single question, and the other variables. The Teachers' Homework Reasons Scale accurately measures the frequency of teachers' reasons for assigning homework. Quality homework must have clear goals (Epstein & Van Voorhis, 2012) and frequent, high-quality feedback (Zhu & Leung, 2012; Corno, 2000; Cooper, 2001). Therefore, the importance a teacher places on homework quality is likely to be reflected in other dimensions. The results obtained from the Teachers Homework Reasons and TPHQFH scales are expected to positively correlate.

Homework studies in education often evaluate teachers' homework practices based on student perceptions (Cunha, Rosário, et al., 2018; Hagger et al., 2015; Núñez et al., 2015b, 2015b; Trautwein et al., 2006, 2009; Xu, 2011, 2016). While this method effectively captures students' attitudes and behaviors towards homework, examining teachers' self-reported practices is equally essential. Direct information from teachers provides a broader perspective, as their attitudes and behaviors significantly shape their homework assignment practices. A teacher who strongly believes in the benefits of homework for student achievement will likely assign it more diligently and regularly, positively affecting students' perceptions and academic outcomes. A comprehensive evaluation compares homework practices from both student and teacher perspectives. This approach is crucial for teacher education and professional development programs, which should include feedback and suggestions on homework policies and strategies. Such programs will help teachers become more aware and effective in assigning homework. Therefore, research that incorporates both student and teacher perspectives is essential for guiding teachers in improving their homework practices. This study identifies the psychometric properties of measurement instruments designed to understand homework from the perspective of teachers in a Turkish sample. These scales will collect valuable data on teachers' homework practices, a crucial component of the education system. Cross-cultural educational studies highlight the limitations of applying results from one country to others (Dettmers et al., 2009; Kim & Fong, 2014; Ozyildirim, 2022; Xu, 2010; Xu et al., 2017). Hence, obtaining findings specific to Turkey is vital for shaping national education policies and producing results comparable to international research.

2. Method

2.1. Research Sample and Implementation Procedure

A total of 475 teachers from primary, middle, and high schools in northeastern Turkey participated in this study. Group 1 consisted of 236 teachers, while Group 2 included 239 teachers. Exploratory Factor Analysis (EFA) was conducted on the data from Group 1, and Confirmatory Factor Analysis (CFA) was conducted on the data from Group 2. Of the participants, 50.3% were female and 49.7% were male, with an average age of 41.25 years (Table 1).

Table 1. *Descriptive Statistics of the Teachers Participating in the Study*

	Gender				Grade						Age	
	Female		Male		Primary		Secondary		High School			
	n	%	n	%	n	%	n	%	n	%	M	Sd
Group 1	121	50.6	118	49.4	106	44.4	76	31.8	57	23.8	39.85	9.11
Group 2	124	52.5	112	47.5	110	46.6	63	26.7	63	26.7	42.28	6.21

Permission was obtained from the Ministry of National Education and the relevant regional administrations at the outset of the research process. Teachers who agreed to participate signed a consent form, and the study was then conducted.

2.2. Scales

Teachers Homework Reasons Scale: The scale developed by Trautwein et al. (2009) is the most effective tool for analyzing teachers' reasons and purposes for assigning homework. It assesses these reasons and purposes through four sub-dimensions, each addressing different pedagogical functions and educational goals of homework practices. The sub-dimensions are: "Drill and Practice" reinforces and practices what students have learned. "Closing the Achievement Gap" reduces academic achievement gaps between students. "Motivation and Self-regulation" increases students' motivation and improves their self-regulation skills. "School-Home Link" establishes a link between school and home. Each dimension comprises of four, two, six, and two items, respectively. The scale demonstrated strong internal reliability, with Cronbach's alpha coefficients of .67, .69, .68, and .82, respectively. Responses are measured using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Teachers Homework Feedback Frequency Scale: This study introduces a 10-item scale designed to accurately measure the frequency with which teachers provide different types of feedback on assignments. A high score indicates that teachers frequently give feedback. The study revealed that the scale has a unidimensional structure with an internal reliability coefficient (Cronbach's alpha) of .90. Responses are measured using a five-point Likert scale, ranging from 1 (never) to 5 (always).

Teacher Perception of Homework Quality and Feedback on Homework Scale (TPHQFH): The TPHQFH scale, developed by Taş (2013), encompasses two primary dimensions: Homework Quality and Feedback on Homework. The Homework Quality dimension evaluates teachers' practices related to assigning and guiding homework, comprising seven items that reflect the characteristics of well-constructed homework assignments. Conversely, the Feedback on Homework dimension assesses the quality of teachers' feedback provided on homework submissions, encompassing six items that gauge effective feedback behaviors. Respondents rate items on a five-point Likert scale ranging from 1 (never) to 5 (always). Internal reliability analysis indicates strong consistency with Cronbach's alpha coefficients of .68 for Homework Quality and .77 for Feedback on Homework. This scale is designed to measure and evaluate key aspects of teachers' practices regarding homework assignments and feedback in educational settings.

Teachers' Homework Practices: In the study, the frequency of homework assignments was assessed using the question "How often do you assign homework?" The response scale for this question is as follows: never (1), once a semester (2), once a month (3), once every two weeks (4), once a week (5), twice a week (6), and more than twice a week (7). Additionally, teachers were queried about the time spent checking homework for each class. Responses were categorized into seven intervals: 1 (I do not check homework), 2 (0-15 minutes), 3 (15-30 minutes), 4 (30-60 minutes), 5 (60-90 minutes), 6 (2-3 hours), and 7 (more than 3 hours). These measures aimed to quantify both the frequency and the time investment associated with homework assignments among educators participating in the research.

Language Equivalence Studies: The language equivalence studies of the Teachers Homework Reasons Scale were meticulously conducted following a systematic procedure. Initially, the instruments were translated into Turkish by five academicians, each providing a separate translation. Subsequently, these translations were synthesized into a single unified form. This combined form was then back-translated into English by different experts proficient in both languages. A native English speaker expert meticulously compared the original English versions with the retranslated forms to ensure accuracy and fidelity to the intended meaning. Once the expert confirmed the equivalence between the original and back-translated versions, the finalized questionnaires were ready for administration in the study. This rigorous process aimed to validate the linguistic and conceptual equivalence of the scale across different language versions.

2.3. Data Analysis

Exploratory factor analysis (EFA): In this study, 475 teachers were randomly assign to two subgroups. EFA analysis of the scales was performed on group 1 using the SPSS program. Bartlett's Test of Sphericity and Kaiser-Meyer-Olkin (KMO) tests were preferred to determine the suitability of the data for EFA. A statistically significant result of Bartlett's test of sphericity indicates that the correlation matrix is not a unit matrix and that there are significant relationships between the variables. This indicates that the variables in the data set are suitable for factor analysis. The KMO test result measures how suitable the variables in the data set are for factor analysis. The closer the KMO value is to 1, the lower the partial correlations between the variables and the more suitable the data set is for factor analysis (Sönmez & Alacapınar, 2016). Following these tests, principal components analysis with varimax rotation was applied to the responses of group 1 to identify the factor structure. The fixed number method was utilized due to a priori theoretical knowledge of the scale's structure. This approach allows researchers to determine a specific number of factors based on theoretical considerations. Items that did not conform to the original factor structure were evaluated based on their conceptual importance to ensure the integrity of the scale's underlying constructs.

Confirmatory factor analysis (CFA): Following the EFA conducted on Group 2, CFA was carried out using AMOS software to validate the factor structures of the scales. Prior to CFA, the normality of the data distribution was assessed by examining skewness and kurtosis values, which were found to be below 2, indicating that the data adhered reasonably well to a normal distribution (Çokluk et al., 2012). Several goodness-of-fit indicators were employed to evaluate the model fit in CFA. These included the x^2/df ratio, Comparative Fit Index (CFI), Goodness of Fit Index (GFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA). For a good model fit, $x^2/< 3$, CFI ≥ .95, GFI ≥ .95, TLI ≥ .95 and RMSEA < .05-.06; for an acceptable fit, $x^2/< 5$, CFI ≥ .90, GFI ≥ .90, TLI ≥ .90 and RMSEA < .08. These benchmarks are widely accepted standards for evaluating the degree to which the hypothesized model aligns with the observed data, ensuring robustness and reliability in assessing the factor structures of the scales under investigation (Hu & Bentler, 1999; Kline, 2023; Steiger, 2007).

Reliability analyses: Cronbach's alpha (α) coefficient and item-total correlations were used to assess the internal reliability of the scales and their subscales. For the reliability of the measurement tool to be considered adequate, the α coefficient should be greater than .70. While this value is generally accepted in the literature (Özdamar, 2016), item-total correlations are recommended to be above .30 (Ural & Kiliç, 2005). In the case of multidimensional scales, the relationships between the subdimensions were also examined in detail.

Evidence of concurrent and predictive validity: In the study, four variables were employed to determine the concurrent and predictive validity of the scales developed and adapted to Turkish: homework quality, homework feedback, homework frequency, and feedback frequency. The relationships between the variables were analyzed using the Pearson correlation test.

2.4. Ethical

Permission for the research was obtained from the Istanbul Sabahattin Zaim University Ethics Committee (2024/4).

3. Findings

This study systematically evaluates the validity and reliability of the scales developed and adapted into Turkish. Detailed analyses are presented in sections dedicated to each scale, thoroughly examining their structural properties and psychometric strengths.

Table 2. *Bartlett's Test of Sphericity and Kaiser-Meyer-Olkin test results of the scales*

	Kaiser-Meyer-Olkin (KMO)	Bartlett's Test of Sphericity
Teachers homework reasons scale	.950	p<.001
Teachers homework feedback frequency	.878	p<.001

Teachers homework reasons (THR)

EFA

The EFA results for Group 1 (n = 236) on the THR scale confirmed the sample's suitability, with a KMO value of .950 and significant Bartlett's test results. The analysis identified four interpretable factors: Drill and Practice, Closing the Achievement Gap, Motivation and Self-Regulation, and School-Home Link, collectively explaining 84.83% of the total variance. Item loadings ranged from .611 to .892 for Drill and Practice (4 items), .873 to .959 for Closing the Achievement Gap (2 items), .557 to .925 for Motivation and Self-Regulation (6 items), and .667 to .781 for School-Home Link (2 items). These factors aligned well with the original scale, demonstrating a high level of consistency and item agreement.

Reliability

According to the reliability analyses of the four sub-dimensions of the THR scale- drill and practice, closing the achievement gap, motivation and self-regulation, and school-home link- the alpha reliability coefficients were .924, .854, .947, and .920, respectively (Table 4). These values indicate strong internal reliability for each subscale (Bland & Altman, 1997; DeVellis & Thorpe, 2021; Henson, 2001). Additionally, item-total correlation values ranged from .746 to .866, all above .30 threshold (Ferketich, 1991), indicating homogeneous distribution of the 14 items across the subdimensions (Table 5). Significant relationships were also found between the sub-dimensions (Table 3), indicating their compatibility and interrelation.

Table 3. *Descriptive Statistics and İntercorrelations Among the* THR *Subscales* (N = 757).

		α	Mean	Sd	1	2	3
1	Drill and practice	.924	4,12	,91			
2	Closing the achievement gap	.854	3,80	1,03	,743**		
3	Motivation and self-regulation	.947	3,95	,92	,801**	,799**	
4	School-home link	.920	3,75	1,11	,644**	,682**	,788**

**p < .01

CFA

The CFA was conducted to validate the four-dimensional structure of the THR scale determined by EFA in the Group 2 sample (n=239). The skewness values for the three subdimensions ranged from -0.741 to -1.131, and the kurtosis values ranged from 0.178 to 1.596, with an upper limit of 2 for both. Six skewness values for individual items ranged between -1 and -2 (maximum -1.296), while others were below -1. For kurtosis, four items had values between -1 and -2 (maximum -1.737), with the rest below -1. No outliers were detected that could affect the results.

When the goodness of fit for the hypothetical model was tested with CFA, the initial results were slightly below acceptable thresholds: $\chi^2/df = 3.306$ (<5), CFI = .931 (>.900), GFI = .857 (<.900), TLI = .912 (>.900), and RMSEA = .105 (>.08). Modification index analyses identified two significant correlated errors between scale items: one between items 1 and 2, and another between items 9 and 14. Adjusting for these correlations improved the model fit significantly: $\chi^2/df = 2.495$ (<3), CFI = .962 (>.950), GFI = .910 (>.900), TLI = .949 (>.900), and RMSEA = .079 (<.08). Standardized coefficients for all items ranged from .702 to .969 (Table 8), supporting the scale's validity (Maruyama, 1997; Schumacker & Lomax, 2004). These results demonstrate the scale's compatibility with CFA scores from different studies.

Teacher homework feedback frequency (THFF)

EFA

The KMO value (.891) and Bartlett's test results for the THFF scale, using data from Group 1 (n=236), indicate suitability for EFA. The unidimensional structure obtained from EFA explains 49.273% of the total variance, exceeding the minimum desirable explanatory value of 40% for unidimensional scales. The factor loadings of the 10 items ranged from .570 to .802, demonstrating a homogeneous structure and strong inter- item relationships.

Reliability

The alpha reliability coefficient of the unidimensional THFF scale is .924 calculated from 793 participants, indicating strong internal reliability (> .70) (Bland & Altman, 1997; DeVellis & Thorpe, 2021; Henson, 2001). Additionally, item-total correlations ranged from .576 to .784, exceeding the recommended minimum of .30 (Ferketich, 1991). These results indicate homogeneous item distribution and the consistency of the scale (Table 5).

CFA

The CFA test was used to validate the unidimensional structure of the THFF scale determined by EFA on the Group 2 sample (n=239). The skewness (-0.487) and kurtosis (-0.042) values for the unidimensional scale were below 1, indicating that the data meet the normality assumption. Although skewness values for individual items reached as high as -1.195, all other values were below 1. Kurtosis values were also below 1 for all items. Outlier analysis using a box plot revealed no significant outliers. The initial goodness-of-fit values for the hypothesized model were $\chi^2/df = 3.860$ (<5), CFI = .926 (>.900), GFI = .899 (<.900), TLI = .904 (>.900), and RMSEA = .111 (>.08). After adjustments with covariance arrows, the fit values improved: $\chi^2/df = 2.471$ (<3), CFI = .964 (>.950), GFI = .935 (>.900), TLI = .951 (>.950), and RMSEA = .079 (<.08). The standardized coefficients of all items ranged from .635 to .826, supporting the scale's validity (Maruyama, 1997; Schumacker & Lomax, 2004).

Concurrent validity of the scales

In order to assess the concurrent validity of the Teachers' Homework Reasons Scale and the Teachers' Homework Feedback Frequency Scale, relationships were investigated between data collected from a related scale developed by Taş (2013), the Teacher Perception of Homework Quality and Feedback on Homework Scale. Additionally, correlational analyses were conducted between responses to the homework frequency and feedback frequency questions. This study aimed to explore the interrelationships between these variables to understand their contribution to the validity of the scales in question.

Table 4: *Correlations Between Research Variables, Homework Behaviors, and Academic Performance*

Scales	Dimentions	1	2	3	4	5	6	7	8
Teachers HW reasons scale	(1) Drill and practice								
	(2) Closing the achievement gap	,743**							
	(3) Motivation and self-regulation	,801**	,799**						
	(4) School-Home Link	,644**	,682**	,788**					
(5) Teachers HW feedback frequency scale		,650**	,531**	,652**	,521**				
Teacher perception of HW quality and feedback on HW scale	(6) HW quality	,525**	,506**	,592**	,505**	,693**			
	(7) Feedback on HW	,609**	,462**	,582**	,425**	,724**	,625**		
(8) HW frequency		,281**	,164**	,199**	,219**	,262**	,272**	,229**	
(9) Feedback frequency		,239**	,166**	,206**	,126**	,300**	,264**	,244**	,275**

HW: Homework, ** = p<.01

The correlational analysis presented in the study reveals robust positive relationships between the Teachers' Reasons for Homework Scale and the Teachers' Frequency of Homework Feedback Scale, as well as between homework quality and homework feedback. Specifically, the dimensions of Drill and Practice, Closing the Achievement Gap, Motivation and Self-Regulation, and School-Home Link showed significant positive correlations with the Homework Quality subscale at levels of .525, .506, .592, and .505, respectively.

Table 5. *Item Loads, Item Total and Standardized Coefficients Values*

Scales	Sub Scales	Item No	Item Loads	Item total	β
Teachers HW reasons scale	Drill and practice	1	,892	,847	,759
		2	,844	,866	,784
		3	,688	,755	,694
		4	,611	,841	,852
	Closing the achievement gap	5	,959	,746	,816
		6	,873	,746	,839
	Motivation and self-regulation	7	,606	,818	,827
		8	,781	,840	,877
		9	,840	,841	,860
		10	,925	,859	,842
		11	,589	,854	,833
		12	,557	,823	,793
	School-home link	13	,781	,852	,860
		14	,667	,852	,969
Teachers HW feedback frequency scale		1	,680	,579	,635
		2	,706	,628	,739
		3	,570	,487	,675
		4	,640	,561	,714
		5	,802	,723	,776
		6	,771	,684	,723
		7	,749	,648	,767
		8	,708	,624	,819
		9	,585	,509	,604
		10	,768	,669	,826

HW= Homework β= S*tandardized coefficients*

Similarly, these dimensions exhibited positive correlations with the Feedback on Homework subscale, with coefficients of .609, .462, .582, and .425, respectively. Additionally, a high level of positive correlation was observed between the Teacher's Homework Feedback Frequency Scale and both the Homework Quality (.693) and Feedback on Homework (.724) subscales, indicating a strong interrelationship. Positive correlations were also noted between the Teacher Homework Reasons Scale and the Teacher Homework Feedback Frequency Scale with both homework frequency and feedback frequency, demonstrating a consistent pattern of association across these scales. Collectively, these findings support the concurrent validity of the scales (Table 4-5).

Table 6 presents the items from two different scales: the Teachers' Homework Reasons Scale and the Teachers' Homework Feedback Frequency Scale. The Teachers' Homework Reasons Scale categorizes teachers' motives for assigning homework into four sub-dimensions:

- Drill and Practice: Homework is used to reinforce and consolidate what was learned in class.
- Closing the Achievement Gap: Homework aims to support lower-achieving or less participative students.
- Motivation and Self-Regulation: Assignments are intended to foster student responsibility, independence, and motivation.
- School-Home Link: Homework encourages parental involvement and communication about school-related topics.

The Teachers' Homework Feedback Frequency Scale measures how often teachers provide feedback on homework. It includes practices such as checking homework completion, solving assignments together in class, giving individual written or oral feedback, communicating with parents, and reviewing homework outside the classroom. These scales provide valuable insights into how teachers structure homework practices and interact with students through feedback.

Table 6. *Scale Items*

Scales	Sub Scales	IItem	Items
			One of my main reasons for setting homework is…
Teachers HW reasons scale	Drill and practice	1	… to drill, practice, and consolidate the material covered in the previous lesson.
		2	… that it is very effective to have students practice the material covered in the lesson again at home.
		3	… to check that the students are keeping up.
		4	… that the assignments help me to see what students have not understood.
	Closing the achievement gap	5	… that it enables students who do not otherwise contribute much to participate.
		6	… that it helps to close achievement gaps between high- and low-achieving students.
	Motivation and self-regulation	7	… that it promotes student responsibility and independence.
		8	… that I want to increase the students' interest in the subject.
		9	… that the students can work together and learn from one another
		10	… that interesting assignments can enhance student motivation.
		11	… that students can become more independent by doing homework assignments without the teacher's help.
		12	… that it helps me to see which students have motivational problems.
	School-home link	13	… that it informs parents about the curriculum and their children's activities at school.
		14	… that it encourages parent-child communication on school matters.
Teachers HW feedback frequency scale		1	I check whether the homework has been done or not.
		2	I discuss the homework in class and solve it together.
		3	I open the homework on the Smart Board and show the solutions.
		4	I inform parents about children who do not do their homework.
		5	I give written and/or oral feedback to individual students about missing or incorrect items.
		6	I give written and/or oral feedback (praise) to those who do their homework well.
		7	I ask those who do not do their homework why they do not do it / try to find out the reasons for not doing it.
		8	I ask similar questions to the class to see if they do the homework with understanding/do not cheat.
		9	I collect the homework and check it outside the class.
		10	I tell the student what he/she did wrong and guide him/her to find the right way.

HW: Homework

4. Discussion

4.1. Exploratory and Confirmatory Factor Analysis

This study addresses the Turkish adaptation of the Teachers Homework Reasons (THR) scale, designed to identify teachers' motivations for assigning homework, and the development of the Teachers Homework Feedback Frequency (THFF) scale, which measures teachers' frequency of providing homework feedback. The study aims to evaluate the psychometric properties of these scales and their suitability for use within the Turkish educational system.

The Teachers Homework Reasons scale (Trautwein et al., 2009), initially comprising four subscales, underwent exploratory factor analysis (EFA) in this study, considering potential cultural differences. The initial EFA revealed a unidimensional structure based on factors with eigenvalues exceeding 1. However, due to the need to encompass various purposes for assigning homework, a four-dimensional structure was derived from subsequent EFA analyses, delineating drill and practice, closing the achievement gap, motivation and self-regulation, and school-home link factors. Confirmatory factor analysis (CFA) supported this structure, aligning with existing literature (Trautwein et al., 2009), endorsing the Teachers Homework Reasons scale as a robust tool for assessing teachers' homework objectives.

Additionally, this study developed a scale to measure the frequency of teachers' homework feedback. Homework feedback encompasses behaviors such as verifying completion, discussing answers in class, and communicating results (Corno, 2000; Cooper, 2001; Zhu & Leung, 2012). The scale items, designed to ensure content validity, covered ten commonly encountered types of feedback. EFA results confirmed a unidimensional structure, supported by CFA, and indicated high internal reliability, reflecting consistency and coherence among the items. These outcomes affirm the scale's effectiveness in assessing the frequency of teachers' feedback on homework.

4.2. Concurrent and Predictive Validity

In terms of concurrent and predictive validity, significant positive relationships were observed between the "drill and practice," "closing the achievement gap," "motivation and self-regulation," and "school-home link" sub-dimensions of the Teachers' Reasons for Homework scale and the "homework quality" and "feedback on homework" dimensions of the Teachers' Perceptions of Homework Quality and Feedback on Homework scale. The homework quality dimension assesses how closely teachers adhere to principles of effective homework assignment preparation, while "Feedback on Homework" pertains to teachers' behaviors in providing feedback on students' homework (Taş, 2013).

While no existing studies concurrently evaluate these two scales, general assessment frameworks suggest that practices promoting quality in one dimension typically align with others. This implies that teachers who conscientiously align homework goals also prioritize the quality of assignments and feedback provided. Additionally, positive significant relationships were found between the "drill and practice," "closing the achievement gap," "motivation and self-regulation," and "school-home link" sub-dimensions and "homework frequency" and "feedback frequency." These findings indicate that teachers who assign homework more frequently and allocate more time to providing feedback demonstrate heightened awareness of homework's purpose. Overall, these results underscore the high concurrent and predictive validity of the Teachers' Reasons for Assigning Homework scale.

In the study of the Teachers Homework Feedback Frequency (THFF) scale, a significantly positive relationship was identified between the "homework quality" and "feedback on homework" dimensions of the Teacher Perception of Homework Quality and Feedback on Homework scale. The THFF scale demonstrates superior content validity compared to the feedback on homework sub-dimension. The study revealed a strong correlation between the dimensions of "homework quality" and "feedback on homework," elucidating the robust positive association with the homework quality dimension of the THFF scale. This finding strongly bolsters both the concurrent and predictive validity of the THFF scale.

Furthermore, supporting both concurrent and predictive validity, a positive relationship was observed between the THFF scale and "Feedback Frequency." "Feedback Frequency" measures the duration teachers spend providing feedback to students, while the THFF scale emphasizes the content and quality of that feedback. It is observed in practice that teachers who dedicate more time to feedback also invest effort in ensuring its quality and effectiveness. This relationship suggests that frequent use of the types of high-quality feedback assessed by the THFF scale positively impacts student achievement (Cunha, Rosário, et al., 2018; Hagger et al., 2015; Núñez et al., 2015b; Trautwein et al., 2006, 2009; Xu, 2011, 2016). Thus, this interplay between frequency and quality serves as a crucial indicator supporting the validity of the THFF scale.

4.3. Limitations and Implications

The study specifically focused on urban areas such as Istanbul and Kocaeli, involving teachers from public schools, emphasizing the importance of cultural and geographical contexts in interpreting findings. Turkish teachers' homework practices are notably influenced by the national examination system, teacher expectations, perceptions of effective teaching methods, and broader cultural factors. Conducting similar studies in diverse cultural settings can provide a more comprehensive understanding of how these factors shape teacher behaviors. The results reflect the unique dynamics of urban environments and the distinct responsibilities associated with teaching in such settings. Cities like Istanbul and Kocaeli, characterized by dense urban structures, may yield data that differ from rural or less densely populated areas

Moreover, private schools are prevalent in Turkey, where teachers' working conditions and expectations may differ significantly from those in public schools. Therefore, the findings of this study may not extend to private school teachers, as only public-school teachers were included. To enhance the generalizability of the results to Turkish culture, future research should include rural areas and private school contexts. An important strength of this study lies in its focus on Turkish culture, contributing valuable insights to the predominantly Western literature on homework practices (Trautwein et al., 2009). Data from a society with a collectivist culture like Turkey enriches the homework literature by offering perspectives and practices distinct from individualistic cultures.

All scales used in this study rely on teachers' self-reports, which involve participants reporting their own behaviors, feelings, or attitudes. However, self-report methods are susceptible to bias, as participants may consciously or unconsciously alter their responses or present themselves in a more favorable light. Moreover, self-report accuracy depends on participants' ability to interpret their own experiences correctly. These limitations underscore the importance of incorporating measures beyond self-report, such as observation or interviews. Future studies could benefit from combining data obtained through standardized measurement tools with information gathered through interview and observation techniques. This approach helps mitigate the limitations of any single method.

5. References

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