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# Impact of Teachers' Commitment to the Relationship between Transformational Leadership and Sustainable Teaching Performance

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Abstract: In the field of education, ongoing processes, and optimal schoolwork outcomes require educational leadership, especially in developing countries, due to the lack of sustainable teaching performance and effective leadership. The present study aims to examine the mediating role of teachers' commitment to transformational leadership and sustainable teaching performance. The sample of the study was selected using a stratified random sampling technique. Out of the 450 copies distributed to the participants, only 374 were retrieved as valid. The hypotheses of the study were tested using PLS-SEM. The findings showed a positive effect of transformational leadership on teachers' commitment. Moreover, transformational leadership was also found to positively impact teachers' performance. In contrast, the teachers' commitment was revealed to positively affect sustainable teaching performance. Finally, the study showed that the teachers' commitment mediated the relationship between transformational leadership and sustainable teaching performance. This study is unique for being among the few studies that examine the effects of principals' transformational leadership. It provides educational leaders and policymakers with significant insights by providing a roadmap that aids in understanding the most influential factors on teaching performance sustainability. Consequently, this study holds significant practical relevance for leaders in the field of education and policymakers, as they provide valuable insights into policies and practices that can be implemented to foster sustainability in the school environment.

**Keywords:** sustainable; teaching performance; teachers' commitment; transformational leadership; schools; PLS–SEM



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# 1. Introduction

Sustainable teaching performance is an important concept in education, one that focuses on the long-term success of teaching. It involves creating and maintaining a positive learning environment for students, as well as providing adequate resources and support for teachers [1,2]. This includes providing teachers with ongoing professional development, access to the latest technology, and the necessary resources to effectively teach students [3–5]. Additionally, it involves creating an environment where students are encouraged to ask questions and engage in meaningful dialogue with their teachers. By doing this, teachers can ensure that their students are learning and retaining the material, while also making sure that they are enjoying their learning experience [6,7].

Sustainability in the teaching profession refers to the capacity of teachers to create and implement educational practices that are socially, economically, and environmentally responsible. In both Europe and the USA, there are increasing efforts to promote sustainable

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teaching as a means of improving the quality of education, reducing environmental impacts, and enhancing the overall wellbeing of students, teachers, and the wider community [8,9]. In Europe, sustainable teaching performance is being integrated into education policies and practices, with a focus on promoting green skills, sustainable lifestyles, and innovative and inclusive teaching practices [10]. In the USA, there are similar efforts to promote sustainable teaching performance, with a focus on creating environmentally sustainable schools and promoting the wellbeing of students and teachers [9,11].

Indeed, the majority of developing nations, including Yemen, have yet to extensively examine the leadership concept to be able to use it as a key success factor in their organizations and institutions. This is mainly due to the lack of resources, knowledge, and experience available in these countries. However, there have been some recent initiatives to introduce leadership training and development in these countries, such as the Yemen Leadership Initiative, which is a partnership between the government of Yemen and international organizations to promote leadership development in the country [12]. This initiative is aimed at increasing the capacity of local leaders to effectively manage and lead their organizations to achieve their goals and objectives [13].

Therefore, developing nations need to catch up on their performance and productivity if they are to compete in a globalized market and rise to the pinnacle of success. In this regard, in the educational sector, leadership has been evidenced to play a key role in performance [14]. Educational institutions are increasingly acknowledging the fact that successful leadership policies and practices have a primary role in increasing the sustainable performance of leaders and teachers in schools, and the overall productivity of institutions [15]. Suffice to say, the success of every institution hinges, one way or another, on the director/leader and the employees, indicating that the institution's ability to compete lies in efficient leadership. While employees form the core of each organization, its success largely depends on the management leading the staff [16,17].

Research on educational leadership is available in the literature [18]. However, most studies have mainly focused on comparing top leadership styles to transformational and transactional leadership, which suggests a comprehensive leadership model. Leadership studies have mainly focused on comparing the top leadership styles of transformational and transactional leadership, suggesting a full-scale leadership model. In this regard [19], focus on examining the relationship between transformational leadership in schools and the commitment of teachers toward students has been urged, arguing that school principals as leaders, along with their teachers, develop the teaching and learning ambiance and experience.

Teachers' commitment is an important concept in education and is especially important in developing countries such as Yemen. In Yemen, teachers often face difficult conditions and limited resources, and their commitment to their students and their work can be crucial in creating a successful learning environment. The Yemen Leadership Initiative was established to help promote leadership development in the country, and this includes training and development for teachers to help them understand and practice the principles of effective teaching [20]. For this purpose, the initial teacher training program should be designed to meet the specific needs of the country's education system. This can include developing curricula that reflect the cultural, social, and linguistic diversity of Yemen. The training program should also take into account the challenges that Yemen faces, such as limited resources, access to technology, and political instability [21]. Therefore, the program should be well-structured and designed to ensure that teachers receive the necessary support and guidance throughout their training. This may include providing opportunities for practical teaching experience, mentoring, and professional development [22].

In addition, the program should incorporate ongoing evaluation and monitoring to ensure that it remains effective and relevant. This can include regular assessments of teacher competencies and the impact of the training program on student learning outcomes. Thus, to ensure the sustainability of the initial teacher training program in Yemen, it is important to develop a long-term plan that takes into account the unique challenges and

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resources that the country faces. This can include strategies for funding, capacity building and continuing professional development opportunities for teachers [23,24].

As a consequence, the present paper adopted the transformational leadership model to examine educational reform in the public schools in Yemen, as the model has been known to increase the commitment level of employees as well as their performance [25]. The paper primarily aims to examine the relationship between transformational leadership and teachers' performance, and the commitment of teachers among the public schools of Yemen [20,26]. The paper also aims to contribute to and improve current scientific research on the topic in the Yemeni educational sector.

## 2. Theoretical Background and Development of Hypotheses

## 2.1. Teacher's Performance

Sustainable teaching performance in schools and educational institutions is among the top research fields when it comes to the educational sector [27] as such performance plays a key role in the educational domain. The performance of teachers is closely linked to the teacher's behavior in the process of teaching, where performance is measured in light of knowledge concerning the teaching material and the ability towards content structure planning development [28]. In sum, teachers have a key role to play in enhancing and ensuring the performance of sustainability education in schools and institutions.

Added to the above, the literature on general performance was examined in a study [29] that revealed that the method of performance evaluation assesses the level of the employees' work performance when compared against a set of rules, and against knowledge transfer. According to another study [30], performance evaluation refers to the estimation of the working performance of the employee with an attempt to determine the level to which they efficiently do the job. Performance evaluation was described as an official system of estimation and assessment of the individual/team's performance. Moreover, a study [31] indicated that staff performance assessment determines the staff's ability to complete work tasks or responsibilities within a specific period while achieving productivity sustainably.

In the context of sustainable teaching, performance is one of the top controversial methods that the official educational system employs [32]. The system uses a dual development and responsibility purpose, prompting concerns from some teachers, while others have acknowledged and accepted its ability to obtain job-related feedback [33]. In this regard, it is challenging to measure the performance sustainable of teachers in Yemen, as a developing nation lacking standardized evaluation metrics. This was brought on by the ineffective management of the Ministry of Education, which resulted in a poor level of teachers' performance in the face of insufficient guidelines and a lack of motivation, planning, and team development [20].

Previous studies of this caliber have evidenced the teacher's commitment as a key driver of the teacher's performance, absenteeism, and turnover [34,35]. Studies revealed that the commitment of teachers is the top efficient strategy to enhance the achievement of the organization. Also, transformational leadership positively affects the employees' commitment [36]. In other words, the teacher's high level of commitment is the driver from which duties and responsibilities are fulfilled. The teacher holds the responsibility for duties performed, and his/her commitment is what builds trust and increases the motivation to do what is best [37].

Based on the findings of prior studies, administrators' leadership behaviors are related to the performance of employees [38]. The majority of the researchers are of the consensus of the presence of the relationship between transformational leadership, employee performance, and job satisfaction. They contended that transformational leadership is the top driver of employee performance [39]. Some other studies of the same caliber indicated a positive relationship between transformational leadership and employee performance [40]. According to the discussion above, this study proposes the following hypotheses for testing:

There is a positive effect of transformational leadership on teacher's performance in Yemeni public schools,

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There is a positive effect of the teachers' organizational commitment on their performance in Yemeni public schools.

# 2.2. Transformational Leadership

Transformational leadership is a type of leadership style that focuses on inspiring and motivating people to achieve a desired goal. In teaching, transformational leadership has been known to play a key role in the performance of teachers [41]. Transformational leaders can create a positive learning environment, foster collaboration and communication among students and teachers, and motivate students to reach their full potential. Moreover, transformational leaders can also recognize and reward good performance, and provide constructive feedback to help teachers improve their teaching practices. Transformational leadership is an important concept for teachers to understand and strive to practice to be successful in their profession [42,43], simply because a good leader is capable of smoothly and effectively leading a team. Similar to this fact is the claim that a good teacher is essentially a good leader and thus, school leaders have a positive influence on teachers. The majority of studies in the literature have concentrated on examining the transformational leadership effect on the performance of employees in business organizations [44].

In the context of education, transformational leaders' behaviors can impact the performance of teachers, and Yemen, in particular, a study [25] revealed the significant effect of transformational leadership on the teachers' performance in public schools. Idealized influence is also referred to as behavioral charisma. In an organization, the leader is looked upon as a role model that inculcates a shared vision, clear objectives, and a united sense of purpose. It goes to show that an idealized leader is a driving force behind the progress of the organization, leading the followers with his zeal [45,46], and transformational leaders are characterized as such to instill confidence in their followers to achieve a brighter outcome [47,48].

An inspiring leader is capable of influencing his followers and continually encouraging them towards progress through their efforts. Such leaders lay down goals and motivational tasks for the followers and simplify the task-related challenges to them. In this regard, transformational leaders use inspirational motivation to explain their visions to their followers [49,50].

The intellectual stimulation of leaders refers to the stimulation of their followers to boost their innovation and creativity (Bass, 1999) [47] explained that intellectual stimulation leads to problem-solving methods and new ideas, and in combination, they affect the performance of the organization's innovation. Hence, intellectual stimulation is described as the inclination of the transformational leader to tackle the reflection of the follower concerning problem-solving strategies to encourage them to be more creative and innovative [47].

A leader adopting an individualized consideration aspect is capable of handling, respecting, and viewing the individuality of the employee. Such a leader is attentive to individual employees' needs, achievements, and growth and assists the latter in reinforcing their strengths through teaching, sharing, and directing [51]. More specifically, individualized consideration is referred to as the procedure and monitoring strategy adopted by the leader for the followers to reach their potential [52]. The leader is viewed as the coach and advisor, paving the way for more opportunities that challenge the development and growth of the followers all the while enhancing their motivation. Extant research has emphasized the significance and application of transformational leadership in an organization, including public education institutions and schools, particularly in Yemen.

The majority of studies in the literature have attempted to test the transformational leadership—organizational commitment relationship among teachers [50,53]. This is supported by the general belief that a relationship exists between the school principal's behavior and the organizational commitment of teachers. The belief is that the school leader's leadership skills significantly affect the commitment of the teachers. Additionally, prior studies on the topic showed that practices of transformational leadership significantly influence the teacher's commitment and satisfaction—with changes that result from such

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leadership style including democratic and fair changes that enhance individual's commitment and involvement [54,55]. Hence, on this basis, this paper proposes the testing of the following hypothesis:

"There is a positive effect of transformational leadership on teachers' organizational commitment in Yemeni public schools".

# 2.3. Commitment of Teachers

According to a previous study [56,57], organizational commitment is a construct with multiple dimensions. It is the amalgamation of three core themes, namely affective, continuance, and normative commitment. Organizational commitment is crucial in human resource management, and it is described as the sense of loyalty of the employees to their respective organization and their association with its goals and objectives [58–60].

Studies abound concerning the organizational commitment of teachers in the literature [61]. Concerning this, teachers' commitment has been evidenced to be enhanced if leaders of schools adopt a transformational leadership style [62]. The commitment of teachers requires in-depth examination due to its influence on the performance and outcomes of students, and in turn, the whole school's performance. In Yemen, because of the lack of studies tackling teachers' commitment calls for examining the construct and its components (affective commitment, normative commitment, and continuance commitment) [63,64].

This study further examined the mediating role of teachers' commitment to the relationship between transformational leadership and performance. Therefore, this study views the mediating effect of the organizational commitment of teachers as a significant construct because lack of such commitment could harm the teacher's perception and performance, as well as the performance of the educational process as a whole. Organizational commitment is invaluable for any organization as it indicates the performance of the organization [65].

A related study found that employees' performance effectively improved via the mediation of their commitment, as opposed to being in direct relation to it. Similarly, authors of [66] found organizational commitment to have an intervening effect on the significant transformational leadership—employee performance relationship. Hence, on this basis, the paper proposes the testing of the following hypothesis:

"There is a mediating effect of teachers' organizational commitment on the relationship between transformational leadership and teachers' performance".

Regarding conceptual framework, the literature's findings indicate several of the above-related results from various contexts, indicating a significant relationship between transformational leadership and teacher commitment [67,68]. The reviewed literature also indicated a significant relationship between transformational leadership and employee performance from different environments and aspects, albeit studies were mostly conducted on business entities [64,67].

Moreover, studies dedicated to teacher's performance, particularly in the context of Yemen, are still lacking based on the reviewed literature, and as yet, no study has been conducted to examine the effect of transformational leadership on a teacher's performance via mediating role of teachers' commitment in Yemeni public schools. Thus, this study examines the mediating role of teachers' commitment on the transformational leadership—performance relationship in this context.

## 3. Methods

Based on the study framework, the study variables and their relationships were depicted based on the examination of models and review of literature, upon which the hypotheses were formulated. The study framework examines the relationship between the three main constructs of the study, namely transformational leadership, teacher's commitment, and teacher performance among teachers in Yemeni public schools. Four hypotheses were proposed by the model for testing.

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The design of a questionnaire is an important stage in any research project for several reasons, the most important of which are the following: first, it assists in capturing the number of targeted respondents; second, it assists in minimizing and avoiding potential errors in measurement; and third, it assists in capturing the demographic information of respondents [69]. When it comes to constructing a survey, the stages known as "questionnaire formulation and design" are regarded as being the most demanding [70]. Two significant concerns have been brought to light: the presentation and substance. The substance of the questionnaire should correspond to the study's questions and goals, and it should be backed by the conversation with industry professionals and comprehensive research of the relevant literature. An efficient structure for a questionnaire takes into account the problems at hand in the order of the questions, the choices of responses, and the language of the inquiries [71].

The questionnaire was also evaluated by experts in the field to ensure that the questions were relevant and appropriate for the research topic. Additionally, the questionnaire was tested on a small sample of participants to ensure that it was easy to understand and complete. Finally, the questionnaire was reviewed by a statistician to ensure that it was properly structured and that all questions were valid and reliable.

Question responses might be either closed- or open-ended. The closed-ended structure was selected for this research because it is appropriate for the study and the nature of the questions. This style offers various benefits, including faster response time from respondents and more accessible information coding for subsequent data analysis [71]. A survey questionnaire was used to obtain primary data from Yemeni school teachers. To enhance the response rate, questionnaire administration, and transcription must be efficient and orderly [72]. Hence, self-administration of the questionnaire was used, with answers recorded on a numerical scale.

To raise the degree of respondents' attention, Sekaran and Bougie [71] provided several delivery methods for a questionnaire, including the attractiveness, accuracy, and professionalism of the questionnaire. To comply with a study's goals and scope, it is important to avoid long words and complicated terminology in the questionnaire items. The respondents were allotted 30 days to fill out the questionnaire. To increase the response rate, nonrespondents were pursued through visits, reminders, and phone calls [73]. The questionnaire was self-administered to all of the sample schools using the previously mentioned information. To resolve any uncertainties and boost response rates, the researcher connected with the coordinator of each school to encourage them to speed up the response. Over one month, information was gathered from every sample unit. The researcher used a quantitative study to ensure that data could be turned into substantial results that are essential to the progress of the research [74].

#### 3.1. Measurements of Variables

This study designed a 62-item questionnaire based on the studies in the literature in the education domain, with the items measured using a 5-point Likert scale. The questionnaire was divided into parts, with each part playing a role in measuring the constructs. More specifically, Section A contains demographic information questions about gender, age, work experience, education level, and current position of the respondents as shown in Appendix A, Table A1. While Section B contains many parts with the following contents: Part 1 contains 21 items that measure transformational leadership construct, Part 2 contains 17 items that measure organizational commitment constructs, and Part 3 contains 24 items that measure the performance of teachers. Various sources were used to adopt the measures in the literature, and as mentioned, a 5-point Likert scale was employed to gauge the items, ranging from 1, depicting strongly disagree, to 5, depicting strongly agree.

## 3.2. Data Collection

This study employed the questionnaire survey as the main tool for data collection, following a fundamental set of procedures to obtain data from the respondents within

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their natural environment. The study distributed a total of 450 questionnaire copies to the teachers working in Yemeni public schools located in different districts. The author hand-delivered the copies and personally collected them from the employees to ensure that they were filled. According to another study [50], the response level is highly enhanced through this strategy. Also, the author can obtain firsthand feedback from those who have completed the questionnaire. From the 450 distributed questionnaire copies, 374 were retrieved and deemed suitable for analysis, indicating a response rate of 83.11%.

To analyze the research model under the recommendation of [75], this study made use of variance-based structural equation modeling and partial least squares, or PLS–SEM. The next subsections detail the study model evaluation, divided into two phases, namely the measurement model and the structural model [76]. PLS–SEM was selected as a statistical approach, as it is capable of generating simultaneous analysis of the measurement and structural model, ensuring accurate estimate values [77,78]. The two phases are discussed next.

### 3.3. Measurement Model Assessment

The assessment of the measurement model/outer model in the PLS–SEM entails obtaining the composite reliability (CR) value for internal consistency and both indicator reliability and average variance extracted (AVE) for convergent validity [77]. Cronbach's alpha values and composite reliability (CR) values are the top indicators of internal consistency reliability and have threshold values of over 0.70 according to the rule of thumb established by [77]. In this paper, all of the Cronbach's alpha values exceeded 0.70, ranging from 0.830 to 0.984. With regards to the CR values of the constructs, they were over the minimum acceptable value of 0.70, ranging from 0.887 to 0.967 as shown in Appendix A, Table A2.

Reliability can also be confirmed by observing the factor loadings. According to Hair et al. (2017) [76], the same indicators are reflected in the construct, and they are indicated by their high loading and based on the fact that the construct factor loadings all exceeded the recommended value of 0.70. Moving on to the AVE values for convergent validity (validity that reflects the positive measure correlation with other measures of a single construct), they obtained an acceptable range from 0.612 to 0.909, well above the recommended 0.50 value (Hair et al., 2017). Thus, convergent validity was confirmed with the AVE values.

Discriminant validity was tested using the Fornell–Larcker criterion, as suggested by authors of [76]. This type of validity is considered to be present when the diagonal elements are higher than those in the rows and columns (refer to Table 1), in which case, discriminant validity is confirmed.

	AC	AE	CC	IC	IIN	IM	IS	NC	PFC	PMT	PTP
AC	0.838										
ΑE	0.252	0.816									
CC	0.636	0.206	0.954								
IC	0.137	0.125	0.311	0.783							
IIN	0.112	-0.006	0.291	0.689	0.782						
IM	0.167	0.108	0.336	0.654	0.736	0.838					
IS	0.153	0.132	0.321	0.727	0.680	0.716	0.784				
NC	0.660	0.220	0.352	0.338	0.323	0.376	0.348	0.822			
PFC	0.255	0.581	0.403	0.379	0.271	0.358	0.400	0.421	0.828		
<b>PMT</b>	0.257	0.679	0.284	0.250	0.216	0.265	0.398	0.325	0.649	0.786	
PTP	0.286	0.282	0.263	0.192	0.102	0.184	0.284	0.322	0.612	0.772	0.824

**Table 1.** Fornell and Larcker's discriminant validity.

IIN = idealized influence; IM = inspirational motivation; IS = intellectual stimulation; IC = individualized consideration; AC = affective commitment; NC = normative commitment; CC = continuance commitment; PMT = planning and management teaching; PFC = partnership with family and community; PTP = professionalism of teaching performance; AE = assessment and evaluation of students.

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#### 4. Structural Model Assessment

Hypotheses Testing

The testing of the structural model involved the calculation of the  $\beta$  values, t-value, and p-value, using the bootstrapping process and a resample of 2000 [76]. Figure 1 and Table 2 present the results of the process and based on them, a positive and significant effect of transformational leadership was found on the organizational commitment of teachers in Yemeni public schools at the level of significance of 0.001 ( $\beta$  = 0.355, t = 7.354, p < 0.001). The results also show that transformational leadership positively and significantly influences teacher's performance at the significance level of 0.001 ( $\beta$  = 0.186, t = 2.994, p < 0.001), and organizational commitment positively and significantly mediates the relationship between transformational leadership and teacher's performance at the level of significance of 0.001 ( $\beta$  = 0.122, t = 4.142, p < 0.001).

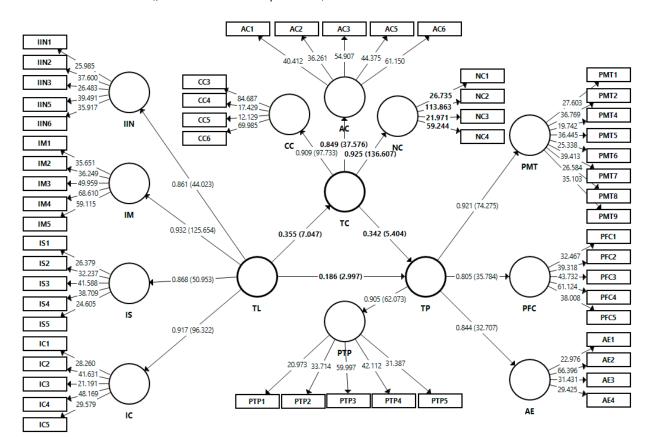


Figure 1. Bootstrapping and t-value.

**Table 2.** Results of hypotheses testing. \*\*\* indicated that the hypothesis are highly significant.

No.	Hypothesis	Relationship	Path Coefficient	t-Value	<i>p</i> -Value	Decision
1	H1	$TFL \to TC$	0.355	7.354 ***	0.000	Supported
2	H2	$TC \rightarrow TP$	0.342	5.453 ***	0.000	Supported
3	H3	$TFL \to TP$	0.186	2.994 ***	0.001	Supported
4	H4	$TFL \to TC \to TP$	0.122	4.142 ***	0.000	Supported

With regards to the testing of mediating variables, the PLS–SEM bootstrapping approach was also employed using PLS–SEM, as the software is capable of testing complex multivariate main and indirect effects models (like in this study). According to authors of [79], the PLS–SEM bootstrapping procedure evaluates the statistical significance of the relevant path coefficients, and using path analysis, it considers both effects (direct and indirect) simultaneously, in contrast to other mediating testing techniques [80].

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Based on the study model examined, organizational teacher's commitment was brought forward as having a mediating effect on the relationship between transformational leadership and teacher performance. The related test was carried out to determine if OTC has a mediating role in the TFL (IIN, IM, IS, and IC) and TP (TPM, FPC, PTP, and AE) relationship. Based on the obtained results, OTC significantly mediates the TFL–TP relationship as the confidence interval of the indirect effect of TFL on TP ( $\beta$  =0.168, 95% CI = 0.065 to 0.1179) did not include zero (0). The mediation test results are tabulated in Table 3 and are consistent with the approach adopted by Preacher and Hayes (2008) [80].

Table 3. Mediating variable analysis—Preacher and Hayes (2008).

	$IV \to MV$	$MV \to DV$	$MV \rightarrow DV$ SE = SD For Indirect Effect		Effect	Bootstrapped Confidence Interval	
-	Path a	Path b	Indirect Effect	SE.	t-Value	95% LL	95% UL
$\overline{\text{MV (TFL} \rightarrow \text{TC} \rightarrow \text{TP)}}$	0.355	0.342	0.122	0.029	4.189	0.065	0.197

#### 5. Discussion

The development of a theoretical model was carried out in this study based on the reviewed literature, generating testable relationships among the study constructs for the government education sector in Yemen. The study constructs are transformational leadership, organizational commitment of teachers, and teachers' performance. The model confirms the effect of transformational leadership practices on the performance of the teachers and further confirms the mediating role of the teacher's commitment to the relationship. Table 3 shows that all transformational leadership dimensions significantly influenced affective, continuance, and normative commitment—in other words, transformational leadership has a significant and positive effect on the teachers' organizational commitment ( $\beta = 0.355$ , t = 7.354, p = 0.000). This result is aligned with those reported by prior studies that empirically evidenced the significant effect of transformational leadership on the commitment of teachers to the organization [81].

Therefore, based on this finding, this study recommends that policymakers focus on the transformational leadership practices adopted in schools. This could be facilitated by introducing training initiatives, programs, and workshops to train the leaders and convince them of the relationship between such practices and teachers' commitment in Yemeni public schools [82]. According to Meyer and Allen [83], the organizational commitment of teachers cannot be fathomed without first understanding its components, which are affective, normative, and continuance commitment. The statistical analysis results concerning the organizational commitment of teachers and teachers' performance indicated that the former's dimensions have a significant relationship with the latter. Specifically, the beta coefficient for affective commitment with a teacher's performance was 0.849 at a p-value that is less than 0.001, for normative commitment with a teacher's performance it was 0.925 at a p-value that is less than 0.001, and for continuance commitment with teacher's performance was 0.909 at a p-value of less than 0.001. These significant statistics results indicate that teachers' teamwork and lack of conflicts among their coworkers, coupled with improved problem-solving skills, would lead to enhanced performance. This finding supports prior findings reported by various studies [84–86].

In addition to the above, the results also supported the significant effect of transformational leadership on the performance of teachers. Composite variable testing (refer to Table 3) shows that all variables indicated that transformational leadership significantly affected the performance of teachers ( $\beta$  = 0.186, t = 2.994, p = 0.001), establishing the positive and significant influence of transformational leadership on the performance of teachers as reported in the prior literature [44]. TFL's four components were all found to significantly and positively affect teachers' performance. The direct hypothesis concerning this was significant and positive indicating that transformational leadership practices do affect the performance of teachers.

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Moving on to the mediating role of teacher's commitment to the transformational leadership—teacher's performance relationship, based on the statistical results displayed in Table 3, the direct effect of transformational leadership on teacher's performance and the direct effect of transformational leadership and teacher's commitment. A review of the results in Table 3 (Preacher and Hayes, 2008) [80], shows that the organizational commitment of teachers significantly and positively mediates the transformational leadership practices adopted and the performance of teachers—a result that is consistent with this study's result.

On the whole, the PLS–SEM results support the mediating role of the teacher's commitment to the relationship between transformational leadership practices and teacher's performance, which is hypothesis 4. Transformational leadership is positively related to organizational commitment and teacher performance in the public schools of Yemen, indicating that leaders in such institutions should enhance organizational commitment culture among their staff through idealized influence to build trust, respect, and appreciation; through inspirational motivation by encouraging commitment, team spirit, and communication; through intellectual stimulation by seeking new strategies and teaching approaches; and through individualized consideration through the consideration of the requirements among teachers. In other words, willingness to share among teachers when it comes to their knowledge, skills, experiences, notes, and teaching materials can be brought about through their commitment, which eventually culminates in enhanced sustainable teaching performance.

This study is unique for being among the few studies that examine the effects of principals' transformational leadership on teachers' performance. In addition, it is a scarce study to test the mediating effect of OTC on the link between TFL and teachers' performance in the context of Yemen's schools. Moreover, this study presented many contributions to the body of research in the domain of organizational commitment and the factors that would lead to better organizational performance, especially, the performance of teachers in public schools [25].

In addition, the study enhances the understanding of the TL, OTC, and TP culture in the governmental education sector. In so doing, it has contributed to the growth of a national body of literature, and probably to national policy-making. Furthermore, it may be quite possible to extend that generalization to other public education sectors in other cities. This study provides new knowledge in managerial field research by opening a discussion on the importance of organizational teachers' commitment as a mediating variable and its impact on teachers' performance. Statistically significant correlations indicate that different organizational teachers' commitments such as effective, normative, and continuous commitment are significantly related and make positive contributions toward teachers' performance.

In the context of the public educational sector, this study contributes to the currently existing literature by responding to the call for more research on the relationship between transformational school leadership and teachers' performance, as the relationship is still not established. Therefore, this study fills in a gap in the literature related to this relationship. The results of the study confirm the significant direct effect of transformational leadership and organizational teacher commitment on teachers' performance. Moreover, this study shows that the performance of teachers can be improved by incorporating these two variables and their significant roles as a composite construct that supports and contributes to the transformation.

Furthermore, this study has important practical implications for educational leaders and educational policymakers to implement policies and practices that promote sustainability in the school environment. It provides significant insights to them by offering a roadmap that helps in understanding the most influential factors on teachers' performance in Yemeni public schools. This certainly contributes to improving academic performance through national strategies for education.

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Moreover, this study underscores the need for a sustainable teaching performance framework that considers the multidimensionality of sustainable teaching performance. This framework should take into account not only academic performance but also social and emotional factors that contribute to sustainable teaching performance.

In contrast, it is possible that the availability of studies in the literature assessing sustainability among teachers is limited, which may have implications for the generalizability of the findings of the study in the Yemeni context. To address this limitation, future research could examine other factors as well as expand the studied regions to provide a better understanding of the concept of sustainable teaching performance in the Yemeni context.

#### 6. Conclusions

A thorough review of the literature highlighted the significant role of transformational leadership and teacher commitment in Yemeni public schools, but this seems to be overlooked by the educational leadership policy established by the country's Ministry of Education. Therefore, the main aim of this study was to examine the relationship between transformational leadership (independent variable), teacher's performance (dependent variable), and teacher commitment (mediating variable). This study succeeded in achieving the research objectives based on the findings.

Four hypotheses were formulated and tested regarding the relationship between transformational leadership and teachers' commitment and performance in Yemeni public schools. The main contribution of the study is the confirmation of the role of commitment of teachers in public schools, which has sadly been lacking in the literature. The mediation role of teachers' commitment to the transformational leadership—teacher's performance relationship is also a significant finding in the literature, indicating the need to combine both commitment and practices of transformational leadership in Yemeni schools for enhanced performance. This study has theoretical and practical contributions, the first of which is its contribution to theory in the form of empirical evidence on the relationship among the studied constructs. The findings can be practically employed and adopted by the Ministry of Education in Yemen by establishing policies concerning the use of transformational leadership practices in schools and the enhancement of commitment of teachers for overall performance improvement.

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Appendix A

 Table A1. Respondents' demographic profile.

Item	Categories	Frequency	Percentage	
C 1	Male	227	60.7	
Gender	Female	147	39.3	
	>30	40	10.7	
	30–35	71	18.98	
Ago	36–40	92	24.6	
Age	41–45	121	32.35	
	46–50	37	9.89	
	< 50	13	3.48	
	Secondary education	13	3.48	
	Diploma	67	17.91	
Educational Level	Bachelor's degree	282	75.4	
	Masters	12	3.21	
	>5 years	39	10.4	
Work Exmerience of Toochine	6–10	66	17.6	
Work Experience of Teaching	11–15	73	19.5	
	<15 years	196	52.4	
	Headmaster	7	1.87	
Destition.	Deputy headmaster	14	3.74	
Position	Administrative	38	10.16	
	Teachers	315	84.22	

Table A2. Internal consistency analysis.

Construct	Items	Loadings	Cronbach's Alpha (>0.7)	CR (>0.7)	AVE (>0.5)
	IIN1	0.733		0.887	0.612
	IIN2	0.823	0.841		
Idealized influence	IIN3	0.760			
	IIN5	0.813			
	IIN6	0.778			
	IM1	0.796			
Torontority	IM2	0.802		0.922	
Inspirational	IM3	0.833	0.894		0.703
motivation	IM4	0.887			
	IM5	0.870			
	IS1	0.769	0.843	0.888	0.614
To Call and Call	IS2	0.794			
Intellectual	IS3	0.808			
stimulation	IS4	0.796			
	IS5	0.749			
	IC1	0.732		0.888	0.613
Individualized	IC2	0.831			
consideration	IC3	0.710	0.841		
consideration	IC4	0.859			
	IC5	0.774			
	AC1	0.828		0.922	
۸ ((ن	AC2	0.805			
Affective	AC3	0.871	0.984		0.703
commitment	AC5	0.829			
	AC6	0.857			

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Table A2. Cont.

Construct	Items	Loadings	Cronbach's Alpha (>0.7)	CR (>0.7)	AVE (>0.5)
Normative commitment	NC1 NC2 NC3 NC4	0.786 0.919 0.703 0.866	0.838	0.892	0.676
Continuance commitment	CC3 CC4 CC5 CC6	0.826 0.790 0.798 0.797	0.967	0.967	0.909
Planning and management teaching	PMT1 PMT2 PMT4 PMT5 PMT6 PMT7 PMT8 PMT9	0.789 0.820 0.711 0.799 0.779 0.825 0.760 0.800	0.911	0.928	0.618
Partnership with family and community	PFC1 PFC2 PFC3 PFC4 PFC5	0.755 0.821 0.885 0.845 0.808	0.885	0.916	0.685
The professionalism of teaching performance	PTP1 PTP2 PTP3 PTP4 PTP5	0.798 0.829 0.847 0.872 0.791	0.881	0.913	0.679
Assessment and evaluation	AE1	0.745	0.830	0.888	0.665

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