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UNLOCKING THE BLACK BOX OF THE MEDIATING ROLE OF TEACHERS' ORGANIZATIONAL COMMITMENT IN INDONESIAN CONTEXT

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Abstract
The purpose of this study was to examine the mediating role of teachers' organizational commitment in the relationship between transformational leadership and instructional leadership on school academic performance. The sample for this study consisted of 185 senior teachers in 100 private senior high schools in Surabaya, East Java, Indonesia. They rated their principals' leadership style according to the Multifactor Leadership Questionnaire (Transformational Leadership), the Teaching and Learning International Survey (TALIS) and Teacher's Organizational Commitment. School academic performance was measured by national examination result in Mathematics, English, and Bahasa Indonesia. Hypotheses were tested using the Structural Equation Modeling-Partial Least Square (SEM-PLS). Results found that teachers' organizational commitment fully mediate significantly the relationship transformational leadership and instructional leadership on school academic performance. Conclusion, limitations and direction for future research are also presented.

Introduction
The key success factor to improve the quality of education lies in the teachers and leaders. Teachers' organizational commitment (TOC) is crucial for organizational effectiveness (Dee et al., 2006). Hence, it is important to identify the antecedents of influencing teachers' organizational commitment to the school and its effect on school academic performance (SAP). Regardless of this issue, a substantial body of evidence has suggested that teachers' organizational commitment is affected by school organizational factors, such as school leadership (Koh et al., 1995;Nguni et al., 2006). Previous studies have focused on the extensive attention to the antecedents of organizational commitment (Meyer & Allen, 1997). In general, empirical research has found that leadership has a direct effect on employees' organizational commitment (Koh et al., 1995; Nguni et al., 2006). Two of the foremost models in the field of educational leadership are transformational and instructional leadership (Hallinger, 2003).The past empirical research suggests that the impact of transformational leadership on school performance can be enhanced by instructional leadership (Marks and Printy,2004). As school leaders, principals are regarded as the key to implementing effective policies and achieving external accountability objectives (Walker & Qian, 2018).

Organizational commitment of teachers is a key mechanism for organizational effectiveness and plays an indirect role in student outcomes (Rosenholtz,1985). Although the empirical study about the relation between transformational leadership (TL), instructional leadership (IL) and indicator of school performance such as academic outcomes has made significant progress, the research about the mechanism and process by which transformational leadership and instructional leadership influence is still lack of solid empirical evidence. The previous empirical study could not ensure the influence of transformational leadership to school academic performance is direct or indirect. If there is mediating variable, still no way to ascertain the real mediating variable (Ehrhart, 2001). The past study about the influence mechanism for transformational leadership dan instructional leadership is still unclear (Piccolo & Colquitt, 2006).

Literature review
Transformational Leadership (TL)
The concept of transformational leadership seems to have their origins in the work of Downtown (1973) when he contrasted transformational from transactional leadership to account for differences between revolutionary, rebel, reform, and ordinary leaders (Silins, 1994). The systematic research into the nature and effects on transformational leadership in different work organizations seems to have taken firm roots following the work of

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Burns (1978), who distinguished two forms of leaders, that is, transactional and transformational leaders.Transformational leadership theory starts with the concept by Burns (1978) and Bass (1985). According to Bass, transformational leaders stimulate the underlings to make perceptions of leadership with new perspectives since there is intellectual stimulation. Leaders are able to make perceptions as the individuals who cansupport and give cares to the underlings with individualized consideration, through inspirational motivation and charisma (Bass,1985). The transformational leadership entails raising the level of motivation of their followers beyond exchange values and thus achieve a higher level of performance and followers self-actualisation (Nguni et al.,2006). For Bass, transformational and transactional leadership comprise two conceptually independent but related dimensions of leadership. Transformational leaders differ from transactional leaders in that they do not merely recognise the needs of followers, but also attempt to elevate those needs from lower to higher levels of development and maturity. Transformational leadership motivates followers to do more than they originally expected and thought possible. Transformational leadership augments transactional leadership by focusing on the development of followers as well as addressing the goals of the leader, follower, group, and organization (Bass & Avolio,1990).

Instructional Leadersip (IL)

Instructional leadership models emerged in the early 1980s from early research on effective schools (Hallinger,2003). School effectiveness research has put a lot of stress on the concept of instructional leadership as a key component of effective schools (Teddlie and Reynolds, 2000). Instructional leadership is seen as being concerned with hands-on involvement with teaching and learning processes, and with the headteacher acting as the leader in terms of pedagogy and instruction rather than taking a more hands-off role concerned more strongly with administration, and has been described as those actions that a principal takes, or delegates to others, to promote growth in student learning and making instructional quality the top priority of the school and brings that vision to realisation (Hallinger and Heck, 1998). Instructional leadership defines the focus of a school leader's attention and behavior as being directed to three main areas: defining the school's mission, managing the instructional program, and promoting a positive school learning climate (Hallinger & Heck, 1996; Leithwood, Jantzi, & Steinbach, 1999). Other definitions of instructional leadership focus more narrowly on the teaching and learning processes in schools, including teacher professional development, curriculum development, and teacher supervision (Blase & Blase, 1998).

There is a now tacit agreement that instructional leadership is a multidimensional construct. Hallinger and Murphy's (1985) model (Principal Instructional Management Rating Scale (PIMRS)) presents instructional leadership as comprising multidimensional features. Their model has three dimensions: defining the school's mission, managing the instructional program and promoting a positive school learning climate (Hallinger, 2005; Hallinger and Murphy, 1985). Recent OECD research (2009) based on the TALIS data further affirms that instructional leadership is a multidimensional construct. Drawing on data from 23 countries the OECD report (2009) showed that effective instructional leaders tend to engage actively in three domains: management for school goals, instructional management and direct supervision of instruction. Lee et al. (2012) concluded that the OECD's conceptualization of instructional leadership is similar to the PIMRS, the most widely used instrument internationally for exploring instructional leadership. At the same time, however, Lee et al (2012) argued that the OECD framework further partitions the second dimension of the PIMRS by proposing instructional management and direct supervision of instruction.

Organizational Commitment (OC)

Mowday et al.,(1979) defined organizational commitment as "the relative strength of an individual's identification with and involvement in a particular organization". Organizational commitment consists of three characteristics, namely (a) identification, or a belief in and acceptance of organizational goals and values; (b) involvement, or a willingness to exert effort on behalf of the organization; and (c) loyalty, or a strong desire to maintain membership to the organization. These characteristics imply that members of an organization wish to be active players in the organization, have an impact on what is going on in it, feel that they have high a status within it, and are willing to contribute beyond what is expected of them (Bogler & Somech, 2004).

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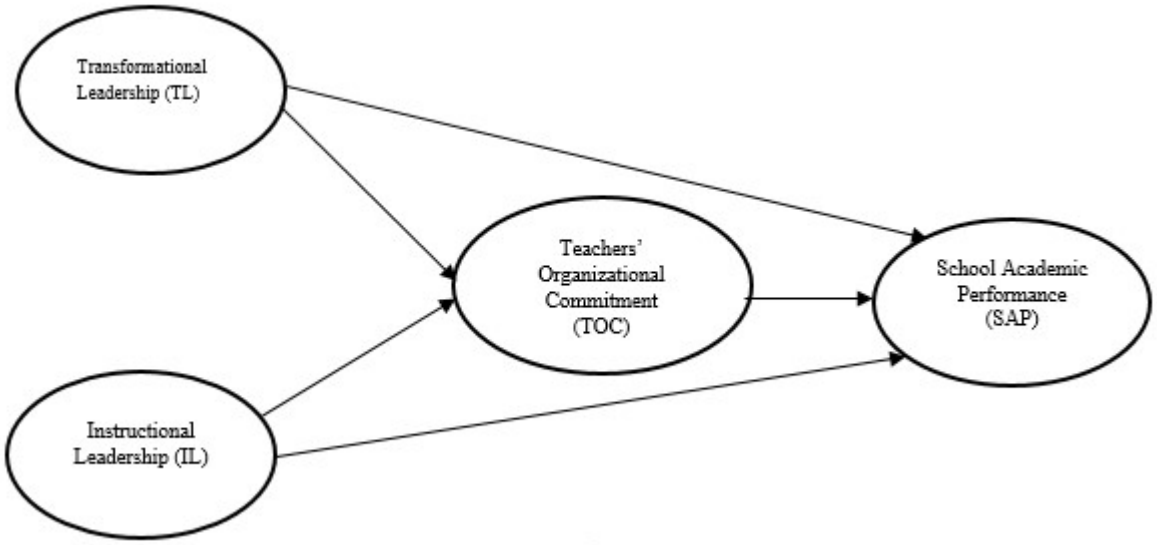

Figure 1. Theoretical Framework

Based on the theoretical framework described above (Figure 1) , substantial questions regarless of the relationship between transformational leadership and instructional leadership on school academic performance through teacher's organizational commitment remain unclear or in the 'black box'. Therefore, the aim of the present study is to examine the mediating role of teachers' organizational commitment (TOC) in the relationship between transformational leadership (TL) and instructional leadership (IL) on school academic achievement (SAP).

The Indonesian Context

Indonesia has a significant sociological and historical context in educational setting. Our research into principal leadership behavior is deeply embedded in this context. The Indonesian school system has been undergoing significant change since 2013 towards school-based curriculum with mandatory devolution of authority and of power to school-level decision-makers structured as School Councils (Hariri et al., 2014). The challenge posed by the target of universal access to quality education is changing the landscape of educational accountability. The Indonesian education system emphasis in class examination to asses student academic achievement and students sit standardised and highly centralised examinations in which the test questions are set centrally. Recent studies confirm that the school plays an important role in impacting student outcomes, roughly attributing half of the variance in student achievement to difference between schools (World Bank, 2009). In these times of heightened concern for educational outcomes, principal leadership behavior remains a key strategic issue in Surabaya city, East Java, Indonesia.

Development of Hypothesis

Transformational Leadership (TL) and Teachers' Organizational Commitment (TOC)

Many empirical researches also found that transformational leadership is positively related to follower organizational commitment in the different organization and culture.The past research showed that leadership was closely related to the employee organizational commitment (Yu Bo, 2013).Transformational leadership can make the employee trust and respect their superior, pay the extra effort exceeding expectation. Influenced by the transformational leadership, the employees internalize the sense of worth and goal of leaders. They surpass the present advantages to pursue for the goal and mission advanced by the leader. Transformational leadership can inspire the follower motivation of achievement and high hierarchy of need in order to strengthen the organizational commitment.

Transformational leadership could ensure the follower remain high commitment to the organization and others, volunteer to sacrifice themselves. Kirby and Paradise (1992) revealed that the headmaster as transformational leadership took effect on the teacher's activity and commitment by individualized consideration and intellectual stimulation. Koh, Richard and Terborg (1995) found in Singapore that transformational leadership had displayed correlation with teacher's organizational commitment, organizational citizenship behavior, satisfaction of

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teacher to the leader and the student's performance. In an investigation about nurse, Bycio, Hackett and Allen (1995) found that transformational leadership was close positively related to the organizational commitment. Leithwood's research (1999, 2000) also showed that principal's transformational leadership exerted positive influence on the teacher's organizational commitment. Meng (2004) explored the relationship among the transformational leadership, employee satisfaction and organizational commitment on the context of China. Jia, et al. (2006) tested that there was a distinct positive relation between transformational leadership and follower commitment based on 972 administrative staff in every type corporation in China. Chen, et al. (2006) showed that transformational leadership was positive related to the follower organizational commitment.
Hence, the following hypothesis is proposed:
H1: Transformational Leadership is positively related to Teachers' Organizational Commitment.

Instructional Leadership (IL) and Teachers' Organizational Commitment (TOC)
Literature on approaches to leadership and organizational commitment show that leaders have a great role in raising the organizational commitment of employees (Balay,2000). The amount of research focusing on organizational leadership together with organizational commitment is quite limited (Yüce, 2010; Serin, 2011), and majority of these few studies were conducted at elementary level. Sarikaya and Endorgen (2016) found that instructional leadership behaviors are a predictor of organizational commitment. This finding was supported by previous research (Serin and Buluç, 2012). Hence, the following hypothesis is proposed:
H2: Instructional Leadership is positively related to Teachers' Organizational Commitment.

Teachers' Organizational Commitment (TOC) and School Academic Performance (SAP)
Organizational commitment was found to have a positive relationship with several favorable work outcomes (Yahaya & Ebrahim, 2016).The results of the study show that organizational commitment had significant influence on performance. In educational setting, teacher commitment has been gradually recognized as the most effective route to school success by the leadership literature (Fink, 1992).Research findings of teacher commitment effects on school performance are mixed (Koh etal., 1995; Park, 2004). Hence, the following hypothesis is proposed:
H3: Teachers' Organizational Commitment is positively related to School Academic Performance.

Transformational Leadership (TL) and School Academic Performance (SAP)
Research has revealed that there was positive relationship between principal's transformational leadership and academic performance. Ross & Gray (2006) has conducted an empirical study on how transformational leadership behavior contribute to increased student achievement by building teachers' professional commitment and beliefs on their collective capacity through raising the values of members, motivating them to go beyond self-interest to embrace organizational goals. They contend that transformational leadership influences teachers' professional commitment to school's vision, professional community, school norms of collegiality, collaboration, and joint work and also a commitment to community partnerships. Ndiritu (2012) found that "the relationship between inspiring a shared vision (transformational leadership charateristic) and academic performance showed a positive correlation". This means that the higher the principals displayed this characteristic of transformational leadership, the better their students performed.There was indeed a correlation between secondary school Principals' transformational leadership characteristic in terms of inspiring a shared vision and students' academic performance. Ndiritu (2012) also revealed that "there is a relationship between the secondary school Principals' transformational leadership characteristic transformational leadership characteristic in terms of challenging the process and students' academic performance". There is significant relationship between the Secondary school principals' transformational leadership characteristic in terms of encouraging the heart and students' academic performance. In sum, the results of empirical study showed that principals who displayed three out of the five transformational leadership characteristics that is inspiring a shared vision, challenging the process and encouraging the heart, had their students performing better than the others. These findings are similar to Brent's (2007). Hence, the following hypothesis is proposed:
H4: Transformational Leadership is positively related to school academic performance.

Instructional Leadership (IL) and School Academic Performance (SAP)
Instructional leadership was not new in education. Strong instructional leadership has been widely recognized as the core factor in school development and plays a substantial role in improving school efectiveness (Allen et al. 2015) and quality (Hallinger et al. 2015). Instructional leadership has played a vital role in the overall success of the school (Davis et al., 2005). Leaders in schools have been expected to lead schools in the area of instruction (Hallinger, 2003). Principals needed to be instructional leaders for their schools. They have been extremely

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important to the learning and achievement for students (Davis, et al., 2005). Principals indeed have had the next most significant impact on classroom learning and instruction. In the era of high school accountability, there was a definite need to have strong instructional leaders in schools (Leithwood & Riehl, 2003).

Principals have been expected to take full responsibility for the learning outcomes of a school and they needed to be prepared for any changes to curriculum and instruction that ultimately impacted their school. Instructional leadership has a stronger impact on student outcomes than other types of leadership. The more focused the school's leadership is on instruction, the more effective the school will be in adding value to student outcomes (Robinson et al., 2008). The impact of instructional leadership on student outcomes is notably greater than that of transformational leadership (Robinson et al.,2008).Hence, the following hypothesis is proposed:

H5: Instructional leadership is positively related to school academic performance.

The Mediating Effect of Teacher's Organizational Commitment (TOC) in the relationship between Transformational Leadership (TL), Instructional Leadership (IL) and Sschool Academic Performance

As previously mentioned, the research about the influence mechanism for leadership behavior is still unclear Piccolo & Colquitt, 2006). It needs further research to explain the relation among Tranformational Leadership, Instructional Leadership, Teachers' Organizational Commitment and School Academic Performance, disclosing the mediating effect of Teachers' Organizational Commitment in the relationship between Transformational Leadership , Instructional Leadership and School Academic Performance. In sum, the researchers need to open out the "black box" of the mediating effect of TOC, especially in Indonesian context. The literature on effective principal behavior continues to address the major issue: Do principals influence school academic performance either directly or indirectly? The leaders achieve their effect on school outcomes through indirect paths. One mechanism through which principal leadership affects SAP indirectly is through influences on Teachers' Organizational Commitment. Leadership practices contribute to the outcomes desired by schools but the contribution is almost always mediated by other people, events, and organizational factors such as teacher commitment (Hallinger & Heck, 1998).

The work of Hallinger and Heck143 confirms the importance of using an indirect effects model of leadership. Improved student achievement is the desired outcome of strong instructional leadership practice (Heck& Moriyama, 2010); Robinson et al., 2008). Research, however, has typically not demonstrated a direct relationship between principal leadership and student achievement, but it has provided evidence for substantial indirect effects (Hallinger & Heck, 1996; Leithwood, Patten, & Jantzi, 2010). At least one study provided evidence of principals directly influencing student performance on standardized test scores (Silva et al., 2011). The typical conclusion drawn by quantitative leadership researchers is that school leaders have small and indirect effects on student outcomes that are essentially mediated by teachers (Hallinger & Heck, 1998).

Hence, the following hypothesis is proposed:

H6a: Teachers' Organizational Commitment mediates relationship between Transformational Leadership and School Academic Performance

H6b: Teachers' Organizational Commitment mediates relationship between Instructional Leadership and School Academic Performance.

Methodology

Sample

The research was conducted on 185 teachers in 100 senior high schools out of a total of 132 senior high school schools in Surabaya, East Java, Indonesia in 2018-2019 academic year. Data were collected via an online survey, distributed through email and WhatApp Chat. The selected private senior high schools (100 schools) in districts of Surabaya, East Java, Indonesia, were invited to participate in the study.The quantitative data were collected from a sample of principals. All had worked in the school for at least five years prior to data collection. They were asked to indicate their perceptions of the transformational leadership, instructional leadership, organizational commitment, and school academic performance on a five-point Likert scale (5 = strongly aggre; 1=strongly disagree).

Measurement/Instrumentation

Pilot study

A pilot study was conducted to validate, as well as to ensure reliability of the data gathering instrument. The researcher pilot tested the instrument with some 100 teachers in senior high school in Tangerang City. In

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addition to the aforementioned issue, the items were vetted by the researcher's supervisor. Following the vetting, editing and modification processes with the aforementioned stakeholders, the researcher again pre-tested the instrument. The exercise lasted for on average thirty minutes. The inputs of the various stakeholders were feedback into a modified instrument, from which the final instrument emerged.

Administrative procedure

To administer the questionnaire, the researcher informed participants of their rights and responsibilities in the event they decide to participate in the study. In cases where a school officer was used, he or she was told to inform the participants of their rights and responsibility in the research process. Inform consent was read to each participant and only those who agreed with the processes were allowed to be a part of the research. The administrative procedure in completing the questionnaires was also explained. In addition, to the aforementioned issues, those who participated were made cognizant of the likeliness of withdrawing from the process at any time if they so desire.

Transformational Leadership (TL)

Transformational leadership was measured using the 11-item scale the multifactor leadership questionnaire, Form 5X-short, developed by Bass and Avolio (2000). To assess the degree of implementation of teachers' organizational commitment participants were asked the following: "Please indicate the degree to which each of the following activities is implemented by the principal (or designee) at your school." Each of the variables was constructed as a 5-point Likert type scale with responses ranging from never to always. We operationalize Transformational Leadership as a higher-order factor consisting of four first-order constructs, namely, inspirational motivation (two items), intellectual stimulation (three items), individualized consideration (three items), and idealized influence (three items). All scales use a Likert format (1 = strongly disagree; 5 = strongly agree). Sample items are "The principal articulates a compelling vision of future" and " The principal treats me as individual rather than just as a member of school organisation."

Instructional Leadership (IL)

Instructional leadership was measured by adopting 8-item scale developed by OECD (2009). This instructional leadership is adopted because the framework is conceptually consistent with previous research and in practical terms, it is compatible with our dataset in terms of the composition of survey items. To assess the degree of implementation of instructional leadership participants were asked the following: "Please indicate the degree to which each of the following activities is implemented by yourself at your school." Each of the variables was constructed as a 5-point Likert type scale with responses ranging from never to always. Instructional leadership is measured by 8 items. Sample items are "Principal regularly observes classroom activities," and "Principal encourage staff to consider new ideas for their teaching."

Teachers' Organizational Commitment (OC)

TOC was measured using a modified version of the Three-Component Model (TCM) of commitment (Meyer & Allen, 2004). To assess the degree of implementation of teachers' organizational commitment participants were asked the following: "Please indicate the degree to which each of the following activities is implemented by yourself at your school." Each of the variables was constructed as a 5-point Likert type scale with responses ranging from never to always. Sample items are " I would be very happy to spend the rest of my career with this school organisation" and " I feel that I have too few options to consider leaving this school organization".

School Academic Performance (SAP)

SAP data were analyzed using test results from computer based national examination; It is known as "Ujian Nasional Berbasis Komputer" (UNBK) in Indonesia. Computer based national examination system used to measure school academic achivement and is administered annually by state mandate to all students. Local schools receive a report of their computer based national examination a composite score that is used as a measure of a school's overall effectiveness in teaching the academic standards that were adopted by the State Board of Education and Culture. SAP in this study was based on the average score of computer based national examination result at a senior high school in Surabaya City, Eas Java, Indoensia. The SAP represents the average score of the 2017-2019 graduating cohorts which refer to the national examination result (2017-2019). The average score was measured on a five-point scale (1= needs improvement; 5=excellent).

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Results and discussion

Teachers' Demographic Background

The teachers' demographic background as a descriptive statistics contains the four variables of gender, age, academic qualifications, and teaching experience. Table 1 presents an analysis of the demographic background of Senior High School Teachers in Surabaya, East Java, Indonesia.

Tabel 1. Analysis of Demographic Background of Senior High School Teachers in Surabaya

	Demographic Background	Frequency	Percentage
Gender	Male	105	56,76
	Female	80	43,24
Age	35-40 Years	75	40,54
	41-45 Years	58	31,35
	46-50 Years	32	17,30
	51 Years and above	20	10,81
Academic Qualifications	Bachelor	120	64,86
	Master	65	35,14
Teaching Experience	5-10 Years	70	37,84
	11 Years and above	115	62,16

Assessment of Measurement Model

Confirmatory factor analysis (CFA) was conducted to test the item reliability, convergent validity, and discriminant validity of the measurements scales. As shown in Tables 2, all the items loading exceeded the minimum cut off point of .50 (& Straub, 2000; Hair et al., 2017); thus, the internal consistency was achieved. In Tabel 3, regarding the terms of convergent validity, all the composite reliability (CR) values were above .70 (Chin, 2010; Hair et al., 2017) and the average variance extracted (AVE) values meet the minimum criteria of .50 (Hair et al., 2017). In Table 4, all the t-values exceeded 1.96 significant levels (statistically significant at .05 levels), hence, all the measurements items were significantly explaining the research construct. The result of discriminant validity (see Table 5), the value of AVE was square rooted and testified against the intercorrelations of the construct with other constructs in the research model (Chin,2010; Hair et al., 2017) and all the values noted as greater than each of the constructs correlations (Chin, 2010), hence, the measurement model satisfactory achieved. In order to testify the reliability of the variables, Cronbach's alpha (see Table 6) was used to validate the reliability of the variables and the minimum cut off point must above .70 (Cronbach, 1951). Thus, all the internal reliabilities of scales were ranged from .786 to .876 which was clearly acceptable. Hence, the measurement model was satisfactory and provided sufficient evidence in terms of reliability, convergent validity, and discriminant validity.

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Tabel 2. Loadings and Crossloadings

	Transformational Leadership (TL)	Instructional Leadership (IL)	Teachers' Organizational Commitment (TOC)	School Academic Performance (SAP)
TL1	**0,777**	0,162	0,411	0,141
TL2	**0,842**	0,271	0,527	0,109
TL3	**0,820**	0,232	0,534	0,051
TL4	**0,897**	0,247	0,539	0,106
TL5	**0,808**	0,124	0,382	0,123
TL6	**0,932**	0,304	0,615	0,124
TL7	**0,804**	0,303	0,599	0,046
TL8	**0,818**	0,246	0,430	0,108
TL9	**0,890**	0,236	0,511	0,223
TL10	**0,913**	0,212	0,474	0,125
TL11	**0,918**	0,224	0,468	0,163
IL1	0,341	**0,866**	0,723	0,147
IL2	0,213	**0,937**	0,715	0,181
IL3	0,246	**0,924**	0,715	0,157
IL4	0,255	**0,962**	0,717	0,134
IL5	0,256	**0,950**	0,723	0,139
IL6	0,250	**0,881**	0,643	0,097
IL7	0,183	**0,921**	0,681	0,104
IL8	0,290	**0,900**	0,691	0,171
TOC1	0,504	0,746	**0,933**	0,351
TOC2	0,518	0,607	**0,820**	0,218
TOC3	0,510	0,585	**0,767**	0,154
TOC4	0,492	0,726	**0,915**	0,246
TOC5	0,614	0,741	**0,923**	0,284
TOC6	0,471	0,663	**0,909**	0,240
TOC7	0,563	0,732	**0,964**	0,279
TOC8	0,587	0,694	**0,963**	0,303
SAP1 Math	0,112	0,168	0,247	**0,873**
SAP2 English	0,149	0,123	0,280	**0,912**
SAP3 Bindo	0,075	0,099	0,196	**0,710**

Note. TL=Transformational Leadership; IL=Instructional Leadership; TOC=Teachers' Organisational Commitment; SAP1Math= School Academic Performance (Mathematics); SAP2= School Academic Performance (English); SAP3Bindo=School Academic Performance(Bahasa Indonesia)

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Tabel 3. Results of Measurement Model.

Model Construct	Measurement item	Loading	CR*	AVE**
Transformational Leadership (TL)	TL1	**0,777**	**0,968**	**0,736**
	TL2	**0,842**		
	TL3	**0,820**		
	TL4	**0,897**		
	TL5	**0,808**		
	TL6	**0,932**		
	TL7	**0,804**		
	TL8	**0,818**		
	TL9	**0,890**		
	TL10	**0,913**		
	TL11	**0,918**		
Instructional Leadership (IL)	IL1	**0,866**	**0,977**	**0,843**
	IL2	**0,937**		
	IL3	**0,924**		
	IL4	**0,962**		
	IL5	**0,950**		
	IL6	**0,881**		
	IL7	**0,921**		
	IL8	**0,900**		
Teachers' Organizational Commitment(TOC)	TOC1	**0,933**	**0,972**	**0,813**
	TOC2	**0,820**		
	TOC3	**0,767**		
	TOC4	**0,915**		
	TOC5	**0,923**		
	TOC6	**0,909**		
	TOC7	**0,964**		
	TOC8	**0,963**		
	SAP1 Math	**0,873**		
	SAP2 Eng	**0,912**		
	SAP3 BIndo	**0,710**		

Note

*)Composite reliability (CR) = (square of the summation of the factor loadings) / {(square of the summation of the factor loadings) + (square of the summation of the error variances)}.

**)Average variance extracted (AVE) = (summation of the square of the factor loadings) / {(summation of the square of the factor loadings) +(summation of the error variances)}.

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Table 4. Summary Results of the Model Constructs

Model Construct	Measurement item	Standardize estimate	t-value
Transformational Leadership (TL)	TL1	0,777	14,903
	TL2	0,842	23,505
	TL3	0,820	20,311
	TL4	0,897	49,198
	TL5	0,808	18,711
	TL6	0,932	62,716
	TL7	0,804	17,650
	TL8	0,818	23,367
	TL9	0,890	31,116
	TL10	0,913	51,166
	TL11	0,918	42,578
Instructional Leadership (IL)	IL1	0,866	30,529
	IL2	0,937	70,705
	IL3	0,924	50,053
	IL4	0,962	107,511
	IL5	0,950	119,207
	IL6	0,881	36,776
	IL7	0,921	52,061
	IL8	0,900	43,617
Teachers' Organizational Commitment(TOC)	TOC1	0,933	59,136
	TOC2	0,820	19,720
	TOC3	0,767	16,616
	TOC4	0,915	47,290
	TOC5	0,923	62,041
	TOC6	0,909	66,358
	TOC7	0,964	113,371
	TOC8	0,963	141,805
School Academic Performance(SAP)	SAP1 Math	0,873	8,950
	SAP2 Eng	0,912	9,027
	SAP3 BIndo	0,710	4,310

Table 5. Discriminant Validity of Constructs

	Transformational Leadership (TL)	Instructional Leadership (IL)	Teachers' Organizational Commitment (TOC)	School Academic Performance (SAP)
Transformational Leadership (TL)	**0,858**			
Instructional Leadership (IL)	0,278	**0,918**		
Teachers' Organizational Commitment (TOC)	0,591	0,765	**0,902**	
School Academic Performance (SAP)	0,138	0,155	0,292	**0,836**

Note. Diagonals represent the square root of the average variance extracted (AVE) while the other entries represent the correlations

Table 6. Result of Reliability Test

Model Construct	Measurement items	Cronbac'sh Alpha (α)	Loading Range	Number of items
TL	TL1-11	0,969	0,777-0,932	11
IL	IL1-8	0,971	0,866-0,962	8
TOC	TOC1-8	0,971	0,767-0,964	8
SAP	SAP1-3	0,819	0,710-0,912	3

Note. TL=Transformational Leadership; IL=Instructional Leadership; TOC=Teachers' Organizational Commitment; SAP1Math= School Academic Performance (Mathematics); SAP2= School Academic Performance (English); SAP3Bindo=School Academic Performance(Bahasa Indonesia)

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Assessment of the Structural Model

Structural Model Assessment (SMA) describes the relationship between latent variables based on substantive theory. SMA was evaluated by R square (R2) and Q square (Q2). R square is used to measure how endogenous variables are influenced by other variables. Ghozali and Latan (2015) and Hair et al. (2017) explained R square results of 0.67 and above for endogenous latent variables in the structural model indicating the influence of exogenous(influencing) variables on endogenous (influenced) variables included in the strong category. Whereas if the result is 0.33 - 0.67 it is included in the moderate category, and if the result is 0.19 - 0.33 then it is included in the weak category. Q Square (predictive relevance) is used to predict how well the observed value is generated by the model and also its parameter estimation. Q square value greater than 0 (zero) shows that the model has a predictive relevance value, while Q square value less than 0 (zero) shows that the model lacks predictive relevance. However, if the calculation results show a Q square value of more than 0 (zero), then the model is feasible to say it has a relevant predictive value. Where the results of Q square of 0.35 and above for endogenous latent variables in the structural model indicate the predictive relevance of exogenous (influencing) variables to endogenous (affected) variables included in the strong category. Whereas if the result is 0.15 - 0.35 it is included in the moderate category, and if the result is 0.02 - 0.15 then it is included in the weak category (Ghozali & Latan, 2015; Hair et al., 2017)

Tabel 7. Result of R Square (R^2) and Q Square (Q^2)

Endogenous Variable	R Square	Category	Q Square	Category
Teachers' Organizational Commitment (TOC)	0,103	Weak	0,550	Strong
School Academic Performance (SAP)	0,740	Strong	0,053	Weak

As shown in Table 7, the R square obtained for organisational commitment is 0,103, it can be interpreted that the influence of transformational leadership (TL) and instructional leadership (IL) on teacher'sorganisational commitment (TOC) 10,3 % where the influence of exogenous variables on endogenous variables falls into the week category. Meanwhile, Q square of teachers' organisational commitment (TOC) of 0,550 means that the tranformational leadership (TL) and instructional leadership (IL) in predicting teachers' organisational commitment (TOC) is included in the strong category.

On the other hand, the R square of school academic performance (SAP) is 0,740, this can be interpreted that school academic performance (SAP) is influenced by transformational leadership and instructional leadership 74,0%, where the influence of exogenous variables on endogenous variables is classified into strong categories. Meanwhile, the value of Q square owned by school academic performance is 0,053, it means that the teachers' organizational commitment (TOC) in predicting school academic performance (SAP) is classified into the weak category. In order to test the hypotheses, this study performed Smart-PLS software version 3.2.8 with the bootstrapping method. The research hypothesis can be accepted if it has a T statistics > 1.96 and P values <0.05, it can be interpreted that exogenous variables influence significantly endogenous variables (Hair et al, 2017).

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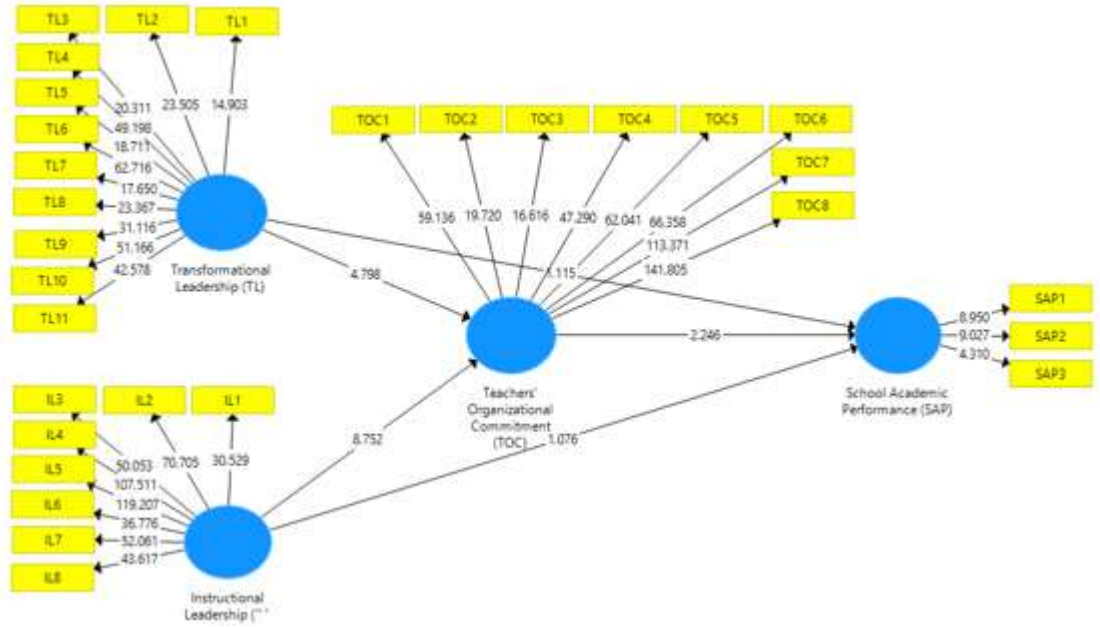

Figure 2. Structural Model Assessment

Table 8. The Result of Hypothesis Testing

Hypothesis	Relationship	Coefficient	t-value	p-value	Supported
H1	TL is positively related to TOC	0,411	4,798	0.000	Yes
H2	IL is positively related to TOC	0,651	8,752	0.000	Yes
H3	TOC is positively related to SAP	0,516	2,246	0.000	Yes
H4	TL is positively related to SAP	-0,109	1,115	**0,265**	No
H5	IL is positively related to SAP	-0,210	1,076	**0,282**	No
H6a	TOC mediates the relationship between TL and SAP	0,212	2,077	0.000	Yes
H6b	TOC mediates the realtionship between IL and SAP	0,336	2,119	0.000	Yes

Figure 2 and Table 8 show the result of the hypothesis testing. The results of the hypothesis testing as shown in Table 8, revealed that Transformational Leadership (TL) is positively related Teacher' Organizational Commitment (TOC) because it has t statistical of 4,798 (> 1.96) and p values of 0.000 (<0.05). The finding of this study means that the higher the Transformational Leadership (TL) the higher Teachers' Organizational Commitment (TOC) will be. Thus, the first hypothesis (H1) could be supported. Instructional Leadership (IL) is positively related to TOC because it has t statistical of 8,752 and p values of 0.000 (<0.05). It means that the higher the IL the higher Teachers' Organizational Commitment (TOC) will be. Thus, the second hypothesis could be supported. Teachers' Organizational Commitment (TOC) is positively related to School Academic Performance (SAP) because it has t statistical of 2,246 and p values of 0.000 (<0.05). It can be said that the third hypothesis could be supported. The higher the TOC the higher SAP will be. TL is not positively related to SAP because it has t statistical of 1,115 (< 1.96) and p value of 0,265 (<0.05). IL is not positively related to SAP because it has t statistical of 1,076 (<1.96) and p values of 0,282 (<0.05). It means that the fourth (H4) and the fifth hypothesis (H5) are not supported. This unexpected findings reveal that the transformational leadership and the instructional leadership doesn't influence the school academic performance directly. This findings is supported by van de Grift (1990) that there is no relationship between leadership and outcomes directly. Results showed no direct effects of principal instructional and transformational leadership on student achievement (Hallinger et al, (1996). In contrast to this findings is supported by previous studies (Silva et al., 2012; Robinson et al., 2008).

Testing Mediating Effects

Prior testing of the significance of mediating effects relied on the Sobel (1982) test. Sobel test requires unstandardized path coefficients as input for the test statistic and lacks statistical power, especially when applied

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to small sample sizes (Hair et al, 2017). For these reasons, research has dismissed the Sobel test for evaluating mediation analysis, especially in PLS-SEM studies (e.g., Klarner et al.,2013). Following this argument we bootstrap the sampling distribution of the indirect effect because the bootstrapping procedure makes no assumptions about the shape of the variables' distribution or the sampling distribution of the statistics and can be applied to small sample sizes with more confidence. The approach is therefore perfectly suited for the PLS-SEM method and implemented in the SmartPLS 3 software. In addition, bootstrapping the indirect effect yields higher levels of statistical power compared with the Sobel test. Tabel 8 presents the bootstrapping result of mediating effect.

Tabel 9. Bootstraping Result of the Mediating Effect

	Direct Effect			Indirect Effect		
	Coefficient	t-value	Significance (p<0,05)	Coefficient	t-value	Significance (p <0,05)
TL→TOC→SAP	-0,109	1,115	No	0,202	2,077	Yes
IL→TOC→SAP	-0,210	1,076	No	0,336	2,119	Yes

Mediation Analyisis of Teachers' Organizational Commitment

Figure 2 and Table 9 summarizes the bootstrapping results for the relationships between Transformational Leadership (TL) and School Academic Performance (SAP) as well as Instructional Leadership (IL) and School Academic Performance (SAP). The mediation analysis procedure as shown in figure 2 and Tabel 10 focuses on the significance of the direct effects from Transformational Leadership to School Academic Performance (SAP) and Instructional Leadership (IL) to School Academic Performance (SAP).The relationship from Transformational Leadership (TL) to School Academic Performance (SAP) is -0,109 and statistically nonsignificant (t = 1,115; p= 0.265). Following the mediation analysis procedure in Zhao et al. (2010) Baron & Kenny's (1986) as cited in Hair et al.(2007), since the indirect effect is significant but not the direct effect, we conclude that Teachers' Organizational Commitment (TOC) fully mediates the Transformational Leadership (TL) to School Academic Performance (SAP) relationship. Similary the relationship from Instructional Leadership (IL) to SAP is -0,210 and statistically nonsignificant (t = 1,076; p = 0.282). Following the mediation analysis procedure in Zhao et al. (2010) Baron & Kenny's (1986) as cited in Hair et al.(2007), since the indirect effect is significant but not the direct effect, we conclude that Teachers' Organizational Commitment (TOC) fully mediates the Instructional Leadership (IL) to School Academic Performance (SAP) relationship. Since the direct effect is nonsignificant, we face the situation of indirect-only mediation. This situation represents the best-case scenario as it suggests that our mediator fully complies with the hypothesized theoretical framework. Our findings provide empirical support for the mediating role of Teachers' Organizational Commitment (TOC) in the research model. More specifically, Teachers' Organizational Commitment (TOC) represents a mechanism that underlies the relationship between Transformational Leadership (TL) and School Academic Performance (SAP) as well as Instructional Leadership (IL) and School Academic Performance (SAP). Transformational Leadership (TL) leads to Teachers' Organizational Commitment (TOC), and Teachers' Organizational Commitment (TOC) in turn leads to School Academic Performance (SAP) and Instructional Leadership (IL) leads to Teachers' Organizational Commitment (TOC) and Teachers' Organizational Commitment (TOC), in turn leads to School Academic Performance (SAP).

Conclusion

The purpose of this study was to examine the mediating role of teacher's organizational commitment (TOC) in the relationship between transformational leadership(TL) and instructional leadership (IL) on school academic performance(SAP). In this study, teachers' perceptions about principals' transformational leadership and principal' instructional leadership style and its impact on school academic performance through mediating effect of their own organizational commitment levels are analyzed. Conclusions depicted from the results of data analysis are as follows:

1. Hypothesis 1: The result of the hypothesis testing found that Transformational Leadership (TL) is positively related Teachers' Organizational Commitment (TOC). It means that the first hypothesis (H1) could be supported. This finding supports the previous research ((Leithwood, 1999,2000;Yu Bo,2013).
2. Hypothesis 2: IL is positively related to TOC. It means that the higher the Instructional Leadership (IL) the higher Teachers' Organizational Commitment (TOC) will be. Thus, the second hypothesis (H2) is supported. This finding is consistent with the past research (Sarikaya & Endorgen, 2016; Serin & Buluç, 2012)

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3. Hypothesis 3: Teachers' Organizational Commitment (TOC) is positively related to SAP. It can be said that the third hypothesis (H3) is supported. This finding supports the previous research (Koh et al., 1995; Park, 2004).
4. Hypothesis 4: Transformational Leadership (TL) is not positively related to School Academic Performance (SAP). It means that the fourth (H4)) hypothesis is not supported. This finding is contrast with the previous studies (Robinson et al.,2008; Silva et al., 2011; Ndiritu, 2012).
5. Hypothesis 5: Instructional Leadership (IL) is not positively related to School Academic Performance (SAP). It means that the fifth hypothesis (H5) is not supported. This finding is not consistent with the previous studies (Robinson et al., 2008; Silva et al.,2011; Ndiritu,2012).
6. Hypothesis 6a: Teachers Organizational Commitment (TOC) fully mediates the Transformational Leadership (TL) to School Academic Performance (SAP) relationship. It can be said that the 6a hypothesis (H6a) is supported. This finding is consistent with the previous research (Heck et al.,1990; Hallinger & Heck, 1998)
7. Hypothesis 6b:TOC fully mediates the IL to SAP relationship.It can be said that the 6b hypothesis (h6b) is supported. This finding is consistent with the previous research (Heck et al., 1990; Hallinger & Heck, 1998).

The most important contribution of this research was to add to the handful of existing studies by examining the influences of transformational leadership (IL) and instructional leadership (IL) in the Indonesian context. Our findings provide empirical support for the mediating role of Teachers' Organizational Commitment (TOC) in the research model. More specifically, Teachers' Organisational Commitment (TOC) represents a mechanism that underlies the relationship between Transformational Leadership (TL) and School Academic Performance (SAP) as well as Intructional Leadership (IL) and School Academic Performance (SAP). Transformational Leadership (TL) leads to Teachers' Organizational Commitment (TOC), and Teachers' Organisational Commitment (TOC), in turn leads to School Academic Performance (SAP) and Instructional Leadership (IL) leads to Teachers' Organizational Commitment (TOC) and Teachers' Organizational Commitment (TOC), in turn leads to School Academic Perfomance (SAP). This form of leadership aims to enhance the resources of both leader and led by raising their levels of commitment to mutual purposes for achieving the school academic performance. The present study revealed that principals do not affect individual students directly in the manner that teachers do through classroom instruction but that activities of the principal have a trickle-down effect on teachers and students (Leithwood et al., 2004). This finding was supported by Hallinger and Heck (1998) that "studies in which indirect effect models are used show a greater impact of school leadership on student performance than do studies employing direct models". To conclude, "the link between principal leadership behavior and school outcomes is at best indirect" (Boyan, 1988; Heck et al., 1990).

Limitations and Direction for Future Research

There were several limitations of the present study. First limitation is the cross-sectional dataset used. A longitudinal design with the available data would have provided more significant effects of transformational leadership and instructional leadership. Second, the number of sampled schools was restricted by the fact that we only included schools where senior teachers had worked in the same school for three consecutive years. We did this in order to get a better picture of the impact of leadership over time. The limitation might have generated potential problems of selection bias and certainly reduced the generalizability of the findings. Third, these self-reported data might be subject to bias and common method variance. However, previous research has suggested that "people often do accurately appraise their social environment" (Alper et al., 2000). Future studies need to examine the proposed model in different cultures, different contexts, and different types of schools. Specifically, the focus of this study was senior high schools. The researchers need to have focus of empirical study in primary and secondary school. It may reveal the different findings for the next generation of empirical studies.

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