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Principals' Leadership and School Success: The Direct and Mediated Impacts of Principals' Instructional Leadership Behaviors on School Success

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Abstract – Albeit there is a strong conviction that principals' leadership has an impact on teachers and students, both the nature and extent of its effect continues to be open to debate. In this article, thus, it was planned to examine the nature and extent of principals' instructional leadership effects on school success in a sample of 30 randomly selected general secondary schools situated in Amhara national regional state, Ethiopia. To attain this purpose, the researcher tested models hypothesizing that principal's instructional leadership contribute to school success both directly and indirectly. A sample of 372 teacher respondents were participated in the study using proportionally stratified random sampling procedure, apart from 54 principals who were included comprehensively. Survey questionnaires for teachers and principals and school success, measured by school level average academic achievement results of students were used to examine the hypothesized models. The results demonstrated that principal instructional leadership behavior had both direct and mediated effects on school success. Albeit the effects were found to be very small in both tested models (direct and mediated effects), the effects of principals instructional leadership behavior on school success were estimated to be significantly positive. The significant direct effect was found to be via only promoting positive school learning climate dimension of instructional leadership. The present study also provided evidence for partial mediation. Specifically, the path from principals' instructional leadership behavior to school success was partially mediated by school academic optimism. That is, schools with higher instructional leadership practice had higher school academic optimism and this in turn has a substantial positive contribution for better school success. In general, the study results by and large confirmed the notion that principals' instructional leadership behaviors play an important role in school success both directly and indirectly. Hence, it is imperative to put forward that promoting positive school learning climate and school academic optimism are the possible intervention areas for school leaders in order to enhance school success in general secondary schools.

Keywords: Instructional Leadership; School Academic Optimism; Direct Effect; Mediated Effect

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1. BACKGROUND OF THE STUDY

Internationally, in the last few decades, the imperative of educational leadership is well-positioned in the vast body of literature (Leithwood, Louis, Anderson, & Wahlstrom, 2004; Leithwood & Riehl, 2003; Mulford, 2003; Wahlstrom, Louis, Leithwood & Anderson, 2010). Much of the attention has been paid to the impact of principal leadership on school features and subsequent student academic achievements (e.g., Hallinger, Bickman & Davis, 1996; Sebastian and Allensworth 2012; Hallinger & Heck, 1998; Leithwood & Jantzi, 2008). Available evidences on the impact of principal leadership have been amply demonstrated that principals can make different in schools and in students learning (Edmonds, 1979; Bush, 2008; Hallinger and Heck, 1998; Fisher and Frey, 2002; Gentilucci and Muto, 2007).

A research undertaken by the Organization for Economic Cooperation and Development (OECD) suggests that effective leadership in schools contributes to improved student learning, facilitates education reform and links schools with their broader context and environment (OCED, 2012). Moreover, it was found that effective school leadership that creates good learning

environments, along with quality teaching staff is considered the most important school level factors that can determine school performance in general and students academic achievement in particular (OECD, 2008; ETUCE, 2012). Furthermore, Leithwood et al., (2004), in their review of both quantitative and qualitative research on school leadership, reported school leadership as the second most important factors among all school related factors in influencing students learning. Leithwood, Day, Sammons, Harris and Hopkins, (2006) in their part also asserted principals leadership as having considerable effects on the quality of school organization and students learning. Research studies similarly had demonstrated that strong principal leadership was among those factors within the school that had a measurable impact on student learning (e.g., Hallinger and Heck, 1996; Wahlstrom et al., 2010). Generally, the imperative of educational leadership in general and principal leadership in particular in guiding school for success seems well established in the literature.

Specifically, Robinson (2007), in her synthesis of evidences about the effects of different types of leadership on school processes and students academic outcome, has drawn a conclusion that a particular form of leadership has substantial impacts on students' outcomes. Among various competing leadership models, research has consistently identified instructional leadership model as a crucial to school success (Bossert et al., 1982; Edmonds, 1979; Robinson, 2007; Robinson, Lioyd & Rowe, 2008). Recent discourses on instructional leadership have demonstrated that principal's instructional leadership behaviors has the greatest impact on student learning (e.g., Hallinger, 2011; Leithwood, Day, Sammons, Harris & Hopkins, 2006). Similarly, a meta-analysis of studies on school leadership effects revealed that principals who focused on instructional leadership produced a stronger impact on students learning achievement than principals who emphasized other leadership practices. The effect of instructional leadership is constantly and markedly larger than the effects of transformational leadership (Robinson et al., 2008). Further explained, the more leaders focus their influence and their relationships with teachers on the core business of teaching and learning, the greater their likely influence on students outcomes. It can thus, be inferred that the greater impact of principals on student results could be achieved when principal leadership gets closer to instructional processes.

Moreover, in a review of the literature on instructional leadership, it is well articulated that the instructional leadership role of the principal was crucial to school effectiveness (Bossert et al., 1982; Robinson et al., 2008). It is renowned that principals in productive schools where the quality of teaching and learning were strong demonstrated instructional leadership role (Murphy, 1990). That is why many researchers and practitioners generally agree that improving schools in the 21st century requires principals exhibit strong skills and expertise in instructional leadership (Hallinger, 2011; Hallinger & Heck, 2010; Leithwood & Jantzi, 2008).

While there is a strong belief that principals' leadership has an impact on the lives of the teachers and students, both the nature and degree of this effect remains open for debate (Hallinger and Heck, 1996). This is because research findings so far have not produced consistent outcomes in relation to the nature and degree of principal leadership effects, signifying a call for more research. For instance, one stream of findings claims that principal leadership has substantial impacts on the quality of school and students learning (Leithood et al., 2006). It was also suggested that the effects of leadership on students learning is second only to classroom teaching in contributing to what students are learning in schools (Leithwood et al., 2006; Leithwood et al., 2004; Quint and et al., 2007; Wahlstrom et al., 2010). In examining the contribution of principals to school effectiveness, Hallinger and Heck concluded that principals exercise measureable impacts on school effectiveness and students achievement and hence, the question is no longer do principals can make difference, rather to resolve the issues of how principals can achieve an impact on school outcomes (Hallinger and Heck, 1996). These stream of findings generally shows a strong belief that the principal could make a difference on the quality of school processes and students learning, which is on par with the expectation of the public that the leadership matters.

Another stream of findings cast doubt on whether instructional leadership effects exist and even they do, whether these are important. These streams of the research findings report the very weak relationship between principal leadership and students learning. In this regard, a meta-analysis study of 37 multinational studies of the direct effects of leadership on students outcomes was found an average effects of 0.02, an estimate that could be interpreted as typically no or a very weak impacts (Witziers et al., 2003). Likewise, Dessalegn, Ferede & Frew (2016), in their study revealed that there was no significant direct asscation between principals' leadership effectiveness and students academic achievement result. These findings confirm prior studies (e.g., Hallinger, Bickman & Davis, 1996), which demonstrated no direct effect of principal leadership on student achievement results.

The other stream of research findings perhaps the more robust conceptualization of principal leadership, which suggests that the effects of principal leadership is mostly to occur indirectly through the efforts of principals to influence those

who come into direct contact with students in the instructional processes (Heck et al., 1996; Leithwood et al., 2004). Hallinger & Heck (1998) contended that most leadership variables are only modestly to weakly relate to outcomes. They concluded that school leaders have small but indirect impacts on students' outcomes, which is essentially mediated by teachers and features of schools (Hallinger and Henck, 1996, 1998). Similarly, Leithwood, & Jantzi, 1999; Horng, & Loeb, 2010) indicated that the effects of principal leadership were significantly mediated by school conditions and moderated by contextual factors.

In sum, studies on principal leadership effects demonstrate inconsistent results seeking further investigations. Some of the studies claim that principals can contribute a significant positive impact on students' achievement. Some other studies also claims that school leaders have small indirect effects, which is paradoxical with the expectations of the public and policy makers that believes leaders make a substantial difference. Moreover, studies on principals' leadership still did not address the means through which principals achieve an impact on school outcomes (Hallinger and Henck, 1996). Above all, the question of whether a school principals' leadership can impact the school success is not clearly figured out in Ethiopian school setting. These all depicts that the nature of the principal's effects on student learning remains inadequately understood particularly in developing countries like Ethiopia. With this perspective in mind, in this study, it was planned to examine the nature and extent of principal instructional leadership behaviors in relation to school success. The study was guided by the following basic research questions:

1. To what extent do principals instructional leadership behaviors directly contribute to school success?

2. What is the mediating role of school academic optimism on the relationship between instructional leadership and school success?

2. THE OBJECTIVES OF THE STUDY

The main purpose of this study was to contribute to an understanding of the role of principal instructional leadership behaviors in school success. It was aimed to uncover the extent to which instructional leadership behaviors could affect school academic optimism and the subsequent school success. It was undertaken to:

- determine the direct effect of principals' instructional leadership behaviors on school success;
- examine the mediating role of school academic optimism on the relationship between instructional leadership and school success; and
- identify dimension of instructional leadership that could significantly predict school success.

3. CONCEPTUAL FRAMEWORK OF THE STUDY

Substantial paths have been identified to describe how principal instructional leadership could influence school successes. For instance, in her analytical review, Pinter (1988) identified five available approaches that could be taken to study school administrators' effects: direct effects, antecedents' effects, mediated effects, moderated effects and reciprocal effects. These five models provide different perspectives for viewing the influence of administrative behaviors on school organization and students' outcomes as well as the effect of school context on administrators' behaviors.

In the present article, however, only direct and mediated-effects (or indirect-effects) models of principal instructional leadership were used to guide the study. A simplified conceptual model shown in Figure 1 indicates the main features of these perspectives. This conceptual model proposes that leadership effects on school success are both direct and indirect. While direct effects model hypothesize the direct link between principal instructional leadership behaviors and school success, the indirect effect model on the other hand, propose that principal instructional leadership effect on school success is mediated by the feature of the school called school academic optimism. Thus, the conceptual model attempts to capture the relationships among set of variables: instructional leadership role behaviors, school academic optimism and school success.

In this article, instructional leadership was chosen to examine the actual principal leadership role behaviors. Instructional leadership is chosen since its primary focus is on teaching learning process in school, which is the most important school level factor that could affect students learning. Instructional leadership is a particular form of leadership that emphasizes the improvement of the schools' technical core (Hoy & Miskel, 2008). Evidences suggest principals' instructional leadership behaviors are viewed as a major predictor of school effectiveness (Robinson, 2007; Murphy, 1990; Robinson et al., 2008; Leithwood et al., 2007). It is also multi dimensional practice oriented construct that involves three dimensions: defining school mission, managing instructional programs and promote positive school learning environment. These dimensions are the three lenses used to view or make sense of principals' success in their instructional leadership role. Successful exercise of principal instructional

leadership role is measured in terms of the frequency of principals' role behaviors. In general, it is with the assumption that principal instructional leadership could enhance school success by setting and communicating clear school mission and goals, supervising and coordinating curriculum and instruction and enhancing positive learning climates in schools.

School academic optimism was chosen as a school feature mediating variable, because it is an area where school principals can make positive intervention to enhance school success. School academic optimism is defined as a collective set of beliefs held by the teachers as a whole that the school teachers believes they can teach even the most difficult students; the school teacher trust students and parents; and the school teachers emphasizes academics (Hoy, Tarter and Hoy, 2006; Fahy, Wu and Hoy, 2010). Simply stated, school academic optimism is a function of academic emphasis, collective efficacy, and faculty trust of the school. It creates a school culture with a collective beliefs and norms that view teachers as capable, students as willing, parents as supportive and academic success as achievable.

Thus, academic optimism is a powerful school construct that combines together three research proven school properties measures such as collective academic emphasis, collective efficacy and collective faculty trust that have potent and positive impact on school success (Hoy, Tarter and Hoy, 2006). Research has linked these three powerful school properties together as a single powerful force explaining school performance (Hoy, Tarter and Hoy, 2006). They further asserted that academic optimism made a significant contribution to students' achievement after controlling for demographic variables and previous achievement.

Pertaining to school success, although school outcomes may be thought of quite broadly, measure of student learning achievement result was chosen as a criterion variable. School success in this study is opreationalized as school outcome particularly average students' academic achievement results at school level as measured by the Ethiopia's national examination for general secondary schools at grade 10th. Students' academic achievement was measured by CGPA of students in grade 10 national examination. The researcher obtained the CGPA of students from records offices of each sampled schools. The scale of CGPA of students on national examination ranges from 0 to 4. Thus, students' average achievement scores at school level from sampled schools at grade 10th national standardized examination held on 2017 were used as a measure of school success, in this study.

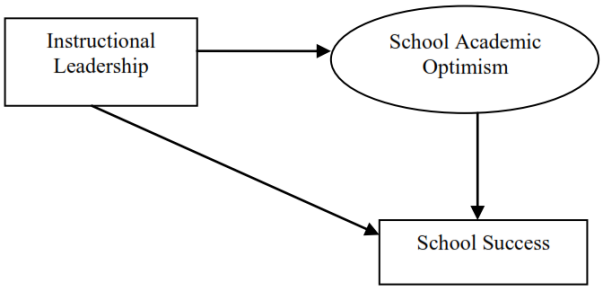


Figure 1: Conceptual model of linking instructional leadership to school success

4. RESEARCH METHODS

This article report cross-sectional survey study of 30 sampled general secondary schools in Amhara national regional state in Ethiopia. Both direct and mediated effects models of principals' instructional leadership design were applied. That is, correlational in nature aimed at investigating principal instructional leadership role behaviors in school success, along with school academic optimism as the mediating factor.

4.1 Sample size and Sampling Procedures

The researcher sought participation in this study from 30 sample schools from five of 10 zonal districts located in Amahra National Regional State. Within these 30 schools, 526 participants were assumed to participate in the study. But only 426 completed the questionnaires, with a response rate 81%. Of these participants, 372 and 54 were teachers and principals respectively. All principals and vice principals (69) were comprehensively included to participate in the study. Proportionately stratified random sampling procedure was applied to select sample teachers from 30 sampled schools.

While selecting sample schools, those schools having principals with less than two years of work experience of principal ship in his/her current position in that particular general secondary school were excluded in the study. This was because principals are supposed not to have adequate stay due to short time range and newness of the school context. Accordingly, two general secondary schools (one from Gondar city and one from Dessie city) were excluded from the study due to this reason. By the same fashion of selecting sample schools, teachers with less than two years of stay in those schools were excluded from the sample as they were supposed not to have adequate stay and experiences in the school to rate principals' instructional leadership role behavior.

4.2 Instruments

Three measures were used: instructional leadership measure, school academic optimism measure and school success measure. Questionnaires were used to collect data about principal instructional leadership role behaviors and school academic optimism. Standardized instrument of Hallinger's(1990) PIMRS was adopted for principal instructional leadership behaviors,. The items of principal instructional leadership behaviors were prepared in five point likert scale. All the items on principal instructional leadership behaviors were the same in content for both teachers and principals, except wording. For principal instructional leadership behavior a total of 50 Likert type closed-ended items classified into three different major scales (defining school mission (10 items), managing instructional programs (15 items) and promoting positive school learning climate (25 items)) were included in the teachers and principals questionnaire. The respondents were required to indicate the extent of principals engagement in a particular behavior or practice by choosing one of the five point scale ranging from almost always (5) to "almost never" (1).

Likewise, standardized instrument of Hoy's (2005) on school academic optimism was adopted. For school academic optimism a total of 31 Likert type closed-ended items classified into three different major scales (collective efficacy, faculty trust, and) were included in the teachers and principals' questionnaire. These items address the extent of school academic optimism. The respondents were required to indicate the extent of school academic optimism as measured by three variables such as sense of collective efficacy, faculty trust, and the school's academic emphasis. For faculty collective efficacy and faculty trust respondents were required to indicate the extent by choosing one of the six point scale ranging from strongly agree (6) to "strongly disagree" (1) while for academic emphasis they were required to indicate the extent by choosing one of the five point scale ranging from strongly agree (5) to "strongly disagree" (1).

In relation to school success measure**,** average academic achievement results of students' at school level as measured by the Ethiopia's national examination for general secondary schools administered on 2017, used as a measure of school success, in this study. Students' academic achievement results were measured by CGPA of students in grade 10 national examination. The researcher obtained the CGPA of students from records offices of each sampled schools. The scale of CGPA of students on national examination ranges from 0 to 4.

5. RESULTS

In this study, the researcher tested hypothetical models using regression analysis and causal relation steps techniques, which allowed the testing of assumptions of direct and causal relationships between and among variables. It was focused on examining both direct and indirect effects of principals' instructional leadership on school success. The models are fit in this study in the need to understand the relationships between principal instructional leadership and school academic optimism as well as their effect on school success. Important assumptions like normality, reliability and Collinearity were tested to run regression and causal analysis. The results of tested assumptions are found satisfactory to run the analysis.

5.1 Instructional Leadership Behaviors and School Success: A Direct Effect Model Test

In the analysis of the first research question, the researcher tested a simple direct-effect conceptualization. This model included measures of principal leadership behaviors and school success. The data analysis portrayed a statistically significant effects ($p<0.05$) of principal instructional leadership on school success, where school success was measured by average student academic achievement scores at school level. This result is very surprising. This is because nowadays the conceptualization of principal leadership is more robust in that principal leadership effect on students learning outcomes is mainly mediated by school level organizational features. The result in the present study, however, reported that principal instructional leadership has a direct role to play on school success.

Table 1: Instructional Leadership as a Predictor of School Success: One Way ANOVA of the Regression Model

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.514	3	.171	2.860	.037
	Residual	25.306	422	.060		
	Total	**25.821**	**425**			

Table 2: Instructional Leadership as a predictor of School Success: Regression Coefficients and t-values of the Regression Model

Model		Unstandardized Coefficients		Standardized Coefficients	t.	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	2.374	.059		40.446	.000				
	Instructional leadership	.039	.019	.099	2.053	.041	1.000	1.000	.039	.019

a. Dependent Variable: School Success

As the ANOVA summary in Table 1 indicates, the model is fit to predict school success from principal instructional leadership as it was found statistically significant positive; $r^2=0.02$, $F(3, 424)=2.86$;

p<0.05). Although the regression model is fit to predict school success from instructional leadership dimensions, the interplay of defining school mission, managing instructional program and promoting positive school learning climate only accounts for 2% of the variance in school success directly. This result can be interpreted as principal instructional leadership behaviors has very small and weak in terms of the direct contribution it produces in school success. The linear regression analysis shows that instructional leadership (ß = .099, t (425) = 2.05, P<0.05) significantly predict school success in general secondary schools. The positive signs of the beta coefficient (ß) indicate that the school success was positively affected by principal instructional leadership role behaviors. Further analysis was made to identify the better predictor among three dimensions of instructional leadership. Accordingly promoting positive school learning climate appeared to be the only dimension of instructional leadership that significantly predicted school success. The data showed that only one major scale of the instructional leadership has a significant effect reported as F (1, 425) =5.77; p<0.05). Although promoting positive school learning climate was found to be the better predictor among instructional leadership dimensions, still it is a very small contribution, merely 1.3% of the variation in school success was accounted for by promoting school learning climate.

5.2 Instructional Leadership Behavior and School Success: A Mediated Effect Model Test

In the analysis of the second research question, the researcher estimated the causal relationship following a mediated effects model approach. Three set of variables such as principal instructional leadership, school academic optimism as mediating variable and school success measured by students' academic achievement were included in the model. The basic premise in this study was that principal leadership effect on school success is mediated by intervening variable called school academic optimism. This model is more sophisticated than the first model tested. To estimate the mediating role of school academic optimism, relationships among the variables in the framework were first computed using regression analysis technique. Accordingly the analysis revealed that each variable in the process affects the next link in the chain (see Figure 2). Most importantly, the analysis of data in the present study did support the simple causal relation structure; that is principals instructional leadership role behavior is partially mediated through intervening variable-school academic optimism in order to affect school success reported as standardized beta coefficient (ß = 0.098, p<0.01), as displayed in model. This implies that variation in school success could be partly due to principals instructional leadership role behavior through intervening variable called school academic optimism. Thus, it can be inferred that school academic optimism is one possible intervention areas for school principals in order to enhance school success. The results of regression analysis on the relationships of variables included in the model and the model that emerged from causal relational steps strategy are presented here under.

Table 3: Instructional leadership behavior in relation to School academic optimism: One Way ANOVA of the Regression Model

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	54.282	1	54.282	484.527	.000b
	Residual	47.501	424	.112		
	Total	101.783	425			

Table 4: Instructional leadership behavior in relation to School academic optimism: Regression Coefficients and t-values of the Regression Model

Model		Unstandardized Coefficients		Standardized Coefficients	t.	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	1.703	.080		21.282	.000			1.703	.080
	Instructional leadership	.565	.026	.730	22.012	.000	1.000	1.000	.565	.026
a. Dependent Variable: School Academic Optimism										

A regression analysis was conducted to look at if instructional leadership could predict school academic optimism in general secondary school. Accordingly, the model is fit to predict school faculty academic optimism from instructional leadership behavior as it was found statistically significant F (1, 424) =484.52; p<0.01). The regression model summary revealed that more than half (53.3%) of the variance in school academic optimism in general secondary school was due to principals instructional leadership role behaviors. Using the regression analysis, shows that instructional leadership (ß = .73, t (425) = 22, P<0.01) significantly predict school academic optimism. The positive signs of the beta coefficient (ß) indicate that the school academic optimism was positively affected by principal instructional leadership role behavior.

A liner regression analysis was also conducted to study if school academic optimism could predict school success in general secondary schools. Consequently, the model was found fit to predict school success from school academic optimism F (1, 424) =7.88; p<0.05), which is statistically significant as portrayed in the ANOVA summary Table 5. However, school academic optimism only accounts for 1.8% of the variance in school success in general secondary schools. This illustrates that the contribution of school academic optimism was found to be very small amount

despite that it was statistically significant as shown in ANOVA summary Table 5. Using the enter method, the regression analysis showed that school academic optimism (ß = .135, t (425) = 2.80, P<0.05) was found statistically significant as T-value for regression model depicts.

Table 5: School academic optimism in relation to school success: One Way ANOVA of the Regression Model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.471	1	.471	7.885	.005[b]
	Residual	25.349	424	.060		
	Total	25.821	425			

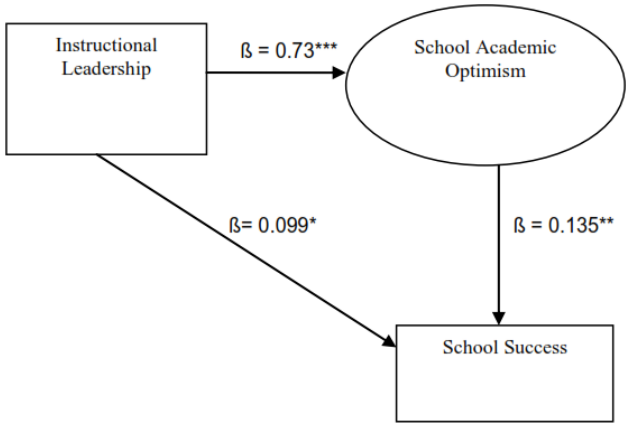
a. Dependent Variable: School success

b. Predictors(Constant), School academic optimism

Table 6: School Academic Optimism: Regression Coefficients and t-values of the Regression Model

Model		Unstandardized Coefficients		Standardized Coefficients	t.	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	2.259	.084		26.921	.000	2.094	2.424		
	Instructional leadership	.068	.024	.135	2.808	.005	.020	.116	1.000	1.000

A. Dependent Variable: School Success



Note:*=P<0.05; **=p<0.01;***=P<0.001

Figure 2: Final model linking principal instructional leadership to school success

6. DISCUSSION

The main purpose of this study was to examine the nature and extent of principals' instructional leadership effects on school success. In investigating this topic, two sets of dependent variables such as school academic optimism and school success were examined in relation to instructional leadership behavior. Using these variables, models portraying avenues of direct and indirect principals' instructional leadership effects on school success were tested. The major results of the study that were presented in the earlier sections are discussed in relation to prior studies and related literatures.

In the first analysis, the researcher tested the direct effect of principal instructional leadership on school success, using the direct effect model. The data analysis supports that principal instructional leadership behavior had a significant positive direct effect on school success as measured by students' academic achievement results. To examine the extent of principals leadership direct contribution, all three instructional leadership dimensions such as defining school mission, managing instructional program and promoting positive school learning climate were regressed on achievement, 2% of the variance on school success was explained. The contribution of principal instructional leadership behaviors on school success was found very small although it was found statistically significant. This finding confirms some of few previous study results outcomes (e.g., Krug, 1992; Witziers, Bosker, and Kruger, 2003; Machoya, Mugwe and Musau, 2014), which supports positive significant correlation between instructional leadership behaviors' and students' learning. But Witziers, Bosker and Kruger Witziers (2003), in their meta-analysis of direct effects of leadership studies had found a small direct effect for elementary schools but no effects for secondary schools. Likewise, Krug (1992) had demonstrated a strong link between instructional leadership and students learning outcomes, particularly in the early school years. Furthermore, the result in present study showed that difference in school success are strongly associated with principal leadership behavior via only promoting positive school learning climate. This finding supports Sebastian and Allensworth (2012) research finding that indicates significant positive association between learning climate and students' achievement. This appears to suggest that in high schools, establishing and maintaining a safe, and positive learning climate in school perhaps is the most important principal leadership function for promoting students academic achievement school wide.

The present finding, on the other hand, contradicts with some prior studies; where the results in the previous studies showed no direct effect of principal instructional leadership on student achievement (e.g., Hallinger, Bickman & Davis, 1996; Dessalegn et al., 2016). In general, research evidences regarding principals direct role in school success is still conflicting. These conflicting results perhaps could be associated with methodological variations applied by researchers and differences in research setting. On top of this, the results of studies on direct effects model appears to hint out that principal leadership effects on school success could be more of indirect through intervening

school and classroom level variables. In this regard, Hallinger, Bickman & Davis (1996) supported the belief that a principal can have an indirect effect on school effectiveness through actions that shape the school's learning climate.

In the second analysis, the objective was investigating the mediating role of school academic optimism in school success, using indirect or mediated effect model of principal leadership. The mediated effect modeling was attempted in the investigation of the mediating role of school academic optimism in school success. Accordingly, a causal linkage was revealed between principals instructional leadership role behavior and school success as occurring through intervening variable called school academic optimism, reported as standardized beta coefficient (ß = 0.098, $p<0.01$), as displayed in model. The analysis of data support that school academic optimism variable significantly mediates the relationship between principal instructional leadership and school success. Putting differently, principal instructional leadership role behavior had statistically significant indirect effect on school success. This finding is highly consistent with prior studies; indicating that indirect effects of principal leadership were significant, albeit small (e.g., Hallinger and Heck, 1996, 1998; Hallinger, Bickman & Davis, 1996, Hallinger and Leithwood, 1994; Heck et al. 1990; Leithwood, 1994). Moreover, the result of present study further confirms the more robust conceptualization of principal leadership that the effects of principal leadership is most likely to occur indirectly through the efforts of principals to influence those who come into direct contact with students in the instructional processes (Heck et al., 1996; Leithwood et al., 2004; Hallinger & Heck, 1998; Leithwood et al., 1990). Thus, the research findings in the present study suggest that school principals who are perceived as strong instructional leaders promote school success-student achievement through their influence on features of the school-wide culture (e.g., in the present study-school academic optimism).

In general, as noticed in the final model, principal who actively engage in instructional leadership role have a significant positive direct effect on school academic optimism. School academic optimism in turn had a significant positive direct effect on school success. In addition to its direct role on school success, principals' instructional leadership role behavior is partial mediated by school academic optimism to influence school success. Simply put, principal instructional leadership affects school success both directly and indirectly through school academic optimism.

CONCLUSION

What is the nature and extent of principals' instructional leadership effect? This was the question that provided the desire for this study. Although this study do not resolve all issues related with the nature and extent of principals instructional leadership influence on school success, the findings support the conclusion that principal instructional leadership behaviors contribute to school success both directly and indirectly. The findings can be summarized in terms of two important conclusions: (1) the relationship between principal instructional leadership behaviors and school success can still be understood through the use of direct effect model; and (2) the effects of principals instructional leadership on school success must also be better examined in terms of theoretically relevant intervening variables like school academic optimism. As already predicted in the model, albeit the effect is very small, the direct effects of principals instructional leadership behaviors on school success was estimated to be significant in this study. The significant direct association was found to be via promoting positive school learning climate. Using the mediated effect model, a causal linkage was demonstrated between principals instructional leadership behavior and school success as occurring through intervening variable called school academic optimism. The results revealed that school academic optimism partially mediates the relationship between principal instructional leadership and school success. In general, using school level average academic achievement scores of students as criteria to measure school success, the results supports the notion that principals' instructional leadership behaviors play an important role in school success both directly and indirectly. Finally, the researcher suggests that promoting positive school learning climate and school academic optimism are the possible intervention areas for school leaders in their effort to achieve school success. It is also imperative to carryout studies that explore the possible school and classroom level avenues through which principals' leadership affects the students learning along with the antecedents' effects.

DECLARATION OF CONFLICTING INTEREST

The author/s declared no potential conflict of interest with respect to the research authorship, and/or publication of this article.

REFERENCES

Hallinger, P., & Heck, R. H. (2010). Collaborative leadership and school improvement: understanding the impact on school capacity and student learning. School Leadership & Management, 30(2), pp. 95–110. doi:10.1080/13632431003663214

Andrews, R., & Soder, R. (1987). Principal leadership and student achievement. *Educational Leadership Journal, 44,* pp. 9–11.

Bossert, S., Dwyer, D., Rowan, B., & Lee, G. (1982). The instructional management role of the principal. *Educational Administration Quarterly, 18(3),* pp. 34–64. doi:10.1177/0013161x82018003004

Bush, J. (2008). *Leadership and management development in educatio*n. London; SAGE Publication Ltd.

Creswell, J.W. (2012). Educational Research. Planning, Conducting and Evaluating Research (4th ed.). Boston: Pearson Education, Inc

Edmonds, R. (1979). Effective schools for the urban poor: *Educational Leadership Journal, 37(1),* pp. 15–24.

ETUCE, (2012). *School leadership survey in Europe: issues, challenges, and opportunities. School Leadership*: Survey Report, Brussels.

Fisher, D. and Frey, N. (2002). 5 Lessons for Leaders. *Principal Leadership, 3 (3),* pp. 53-56.

Gentilucci, J. L., & Muto, C. C. (2007). Principals' influence on academic achievement. The student perspective. *NASSP Bulletin, 91(3),* pp. 219-263.

Hallinger, P. (2011). Leadership for learning: lessons from 40 years of empirical research, Journal of Educational Administration, Vol. 49 Iss 2 pp. 125-142 http://dx.doi.org/10.1108/09578231111116699

Hallinger, P. and Heck, R.(1996). Reassigning principals role in school effectiveness. *A review of empirical research, 1980-1995. Educational administration quarterly 32(1), 5.*p. 44

Hallinger, P., & Heck, R. (1996). The Principal's Role in School Effectiveness: An Assessment of Methodological Progress, 1980–1995. International Handbook of Educational Leadership and Administration. SIHE, volume 1, pp. 723-783. https://link.springer.com/book/10.1007/978-94-009-1573-2

Hallinger, P., & Heck, R. (1998). Exploring the contribution of principals to school effectiveness: *1980–1995. School Effectiveness and School Improvement, 9(2),* pp. 157–191.

Hallinger, P., & Murphy, J. (1985). Assessing the instructional leadership behavior of principals. *Elementary School Journal, 86(2),* pp. 217–248.

Hallinger, P., Bickman, L., & Davis, K. (1996). School context, principal leadership, and student reading achievement*. The Elementary School Journal, 96(5),* pp. 527–549.

Heck, R. H. & Hallinger, P. (1999). Conceptual models, methodology, and methods for studying school leadership. *The second hand book of research in educational administration(*pp. 141-162*). Sanfrancisco: McCutchan*

Heck, R.H., & Hallinger, P. (2014). Modeling the effects of school leadership on teaching and learning over time. *Journal of Educational Administration, 52(5),* pp. 653_681.

Horng, E. L., & Loeb, S. (2010). New thinking about instructional leadership. *Phi Delta Kappan, 92(3),* pp. 66–69.

Hoy, W. k., & C. G. Miskel, (2008). *Educational administration*. Theory, research and practice. 8th ed. New York: McGraw Hill.

Hoy, W. k., C. J. Tarter, and A. Wolffolk, (2006). Academic optimism of schools: a force for students achievement. American educational research kjournal 43(3): pp. 425-446).

James Sebastian and Elaine Allensworth 2012: The Influence of Principal Leadership on Classroom Instruction and Student Learning: *A Study of Mediated Pathways to Learning: Educational Administration Quarterly 48(4)* pp. 626-663.

Leithwood, K. A., & Riehl, C. (2003). What we know about successful school leadership. *New Brunswick, NJ: Center for Educational Policy Analysis. Retrieved September 21, 2006, from http://www.cepa.gse.rutgers.edu/whatweknow.pdf*

Leithwood, K. A., Begley, P. T., & Bradley Cousins, J. (1990). The Nature, Causes and Consequences of Principals′ Practices: An Agenda for Future Research. Journal of EducationalAdministration,28(4).doi:10.1108/09578239010001014

Leithwood, K., & Jantzi, D. (1999). The Relative Effects of Principal and Teacher Sources of Leadership on Student Engagement with School. Educational Administration Quarterly, 35(5), pp. 679–706. doi:10.1177/0013161x99355002

Leithwood, K., & Jantzi, D. (2008). Linking leadership to student learning: The contributions of leader efficacy. Educational *Administration Quarterly, 44(4),* pp. 496–528.

Leithwood, K., & Riehl, C. (2003). What do we already know about successful school leadership? *Paper presented at AERA, Chicago*.

Leithwood, K., Anderson, S., Mascall, B., & Strauss, T. (2011). School leaders' influences on student learning: *The principles of educational leadership and management,* pp. 13–30*. London: Sage.*

Leithwood, K., Day, C., Sammons, P., Harris, A., & Hopkins, D. (2006). Seven Strong Claims about Successful School Leadership. Nottingham: NCSL/DfES Publications.

Leithwood, K., Louis, K. S., Anderson, S., & Wahlstrom, K. (2004). How leadership influences student learning: *A review of research for the Learning from Leadership Project. New York: The Wallace Foundation*.

Machiya, Mugwe and Musau (2014). An investigation into the relationship between instructional leadership and students' learning outcomes in secondary schools of Murang'a County – Kenya: *International Journal of Education and Research Vol. 2 No. 9 September 2014*

Mulford, B. (2003). School Leaders: Changing Roles and Impact on Teacher and School Effectiveness. A Paper Commissioned by the Education and Training Policy Division, OECD, for the Activity: "Attracting, Developing and Retaining Effective Teachers". Paris, April, 2003.

Philip Hallinger & Ronald H. Heck (2011) Conceptual and methodological issues in studying school leadership effects as a reciprocal process, School Effectiveness and School Improvement, 22:2, pp. 149-173, DOI: 10.1080/09243453.2011.565777

OECD (2008), Improving School Leadership: *Policy and Practice, Case Studies on System Leadership. Vol1, No 2*.

OECD (2008). Improving School Leadership: *Policy And Practice – ISBN 978-92-64-04467-8.*

Pitner, N. (1988). The study of administrator effects and effectiveness. *In N. Boyan (Ed.),*

Quint, Janet C.; Akey, Theresa M.; Rappaport, Shelley; Willner, Cynthia J., (2007). Instructional Leadership, Teaching Quality, and Student Achievement, *Suggestive Evidence from, Three Urban School Districts. MDRC publications*. Manpower. Demonstration Research Corp., New York, NY.

Robinson, Lioyd & Rowe, (2008). The Impact of Leadership on Student Outcomes: An Analysis of the Differential Effects of Leadership Types: *Educational Administration Quarterly Vol. 44, No. 5 635-674*

Wahlstrom, K. L., Louis, K. S., Leithwood, K., & Anderson, S. E. (2010). Learning from leadership: Investigating the links to improved student learning: *Executive summary of research findings. University of Minnesota: Center for Applied Research and Educational Improvement, and University of Toronto: Ontario Institute for Studies in Education*.

Waters, J. T., Marzano, R. J., & McNulty, B. A. (2003). Balanced leadership: The effect of leadership on student achievement. *Aurora, CO: Midcontinent Research for Education and Learning.*

Witziers, B., Bosker, R. J., & Krüger, M. L. (2003). Educational leadership and student achievement: The elusive search for an association. Educational Administration Quarterly, 39(3), pp. 398-425. DOI: 10.1177/0013161X03253411

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