# Examining the Mediating Role of School Culture in the Relationship between Heads' Instructional Leadership and Students' Engagement at Secondary Level in Punjab, Pakistan

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## Abstract

Present study aims to investigate the mediating role of school culture (SC) in the relationship between heads' instructional leadership (IL) and students' engagement (SE) at secondary school level. The target population was comprised of all secondary school teachers of district Punjab. Multistage sampling techniques were used to select the sample. The sample was consisted of 1016 secondary school teachers. Questionnaire was used to collect data. Structural Equation Modeling (SEM) technique was used to analyze the mediating effect. Results revealed that total effect of IL on SE is statistically significant ($\beta$=0.655, t= 27.572, p= 0.000), while the direct effect of IL on SE becomes statistically in significant ($\beta$= 0.109, t=1.480, p=0.139). However the indirect effect of IL on SE through the mediation of SC is statistically significant ($\beta$=0.546, t= 8.662, p= 0.000). These findings show that school culture is a statistically significant mediator for the relationship between heads' instructional leadership and students' engagement.

**Keywords:** Mediating effect, School culture, Students engagement, Instructional leadership

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## Introduction

According to Hallinger (2011) the primary influence on student academic outcomes is the instructional leadership of school heads. Although, he explained that school heads have an impact on students learning outcomes indirectly. It is mediated through other factors of the school. For instance, heads have a direct effect on collaborative decision-making processes, shared vision, teachers' collegiality and the school's overall academic capability. These aspects of teamwork are part of the school culture (MacNeil et al., 2009).

Similarly, Hallinger's Leadership for learning model shows that the instructional leadership influence on student learning outcomes indirectly and mediated through other factors of school. It is important for school heads to find out the linking variables that contribute to proficient student learning and are adaptable by school leadership (Ali, 2017).

Bodla and Nawaz (2010) argue that an instructional leader plays a significant role in creating a culture of institute because it "*influences the process of group progression and achievement of goals" (p.208)*. This important role within the school contributes to the growth of the school's community and connects the school's instructional leadership to students' academic achievement, which was developed by the Hallinger and Heck Model B, in 1998. This updated Model B states that the principal is not directly influence on the student success, but through other factors of the school (as cited by Ali, 2017).

Likewise, a study conducted by Bektas et al. (2015) states that school culture plays an important role in the academic performance of students. This influence depends on the cultural factors of the school, such as mutual support between stakeholders, common beliefs, support for career development, family support and recognition of the needs of all students. These studies show that the dominant culture of the school has an impact on all stakeholders, especially on students. A positive school culture can help students feel more connected to school goals, thereby improving educational outcomes (Demirtas, 2010).

However, school heads need to be focused on instructional leadership that fosters collaborative culture to encourage students' involvement in schools (Angelle, 2018). From the literature review, it is clear that the principals who serve as' promoters of change' would influence on students' learning outcomes through effective school culture. Furthermore, a supportive school culture may have a profound effect on the educational achievement of students. All aspects of the educational process, especially the academic performance of students, are affected by the culture of the organization (as cited by Yasin et al., 2017).

Wang and Fredricks (2014) emphasize the importance of student engagement on student achievement. In recent years, the engagement of students in the field of education has become especially important because they are committed to solving the problems of boredom, low performance and dropping out of school. When students are engaged in learning, they will concentrate on completing assignments, persevere with challenges, develop positive relationships with adults and peers, and engage with schools (Wang & Eccles, 2012).

Earlier, student engagement research focused on their effect on enhancing student success, positive conduct, and developing relationships with students to remain in school (Appleton et al., 2008; Hart et al., 2011). Furthermore, recent research indicates that without the engagement, student success would be decreased (Angelle, 2018). In Pakistan, engaging students at the school level is a challenge for educational leaders (Yasin, 2017). The first and initial educational challenge facing Pakistan is to ensure that children who attend school complete their studies (National Education Policy, 2018). A study by Witziers et al. (2003) indicated the head leadership approach could influence student success through organizational variables, which can in turn contribute to improved academic success and retention of students in school.

A limited research has been carried out on instructional leadership and student engagement at school level in Pakistan. Therefore, research based on empirical data should be carried out in the context of Pakistan. The present study aims to examining the mediating role of school culture in the relationship between heads' instructional leadership and students' engagement at secondary level in Punjab. It will help educational leaders to achieve national education policy objectives and ensure the engagement of students at school level.

## Literature Review

Instructional Leadership is considered as a necessary and long-lasting leadership model because it affects classrooms, instructors, and learner outcomes (Aziz et al., 2014; Leithwood et al., 2010; Hallinger & Heck, 1996). Instructional leadership is significant for establishing collaborative school culture in order to enhance student performance.

However, Heaven and Bourne (2016) found that the relationship between instructional leadership and student success is statistically weak. Bulris (2009) conducted a meta-analysis on the intermediate impact of principal leadership on student performance. He explored the extent of the influence of school culture on student performance. Results indicate that school culture is the essential mediating variable between heads leadership and student performance.

Similarly, Koçyiğit (2017) gathered data from 51 studies, including a cumulative sample of 66,391 subjects, and analyzed the effect of school culture on student academic achievement. The findings showed that a strong link existed between the culture of school and student success. The findings of this research are consistent with studies in the relevant literature (Brown 2005; Cunningham 2003; Fraley 2007; Gruenert 2005; Swindler 2009), which show that school culture and student success are linked to each other.

Likewise, a study conducted by Bektas et al. (2015) states that school culture plays an important role in the academic performance of students. However it depends on school leadership to build a culture such as mutual support between stakeholders, common beliefs, support for career development, family support and recognition of the needs of all students (Demirtas, 2010). A study by Melesse and Molla (2018) shows that in any school, one of the key factors for improving students' academic performance is collaboration between teachers and colleagues. This study has shown that school culture contributes significantly to student academic performance at $(81) = 11.547$, $p < 0.05$.

Masuku (2011) suggests that the principal establishes a balanced school culture. In fact, in schools, the principal always focuses on the interactive system among school members, and the interactive system develops and cultivates the culture in order to improve instruction and learning. The role of instructional leaders is vital for the development and promotes effective school culture. It is the duty of school leaders to build effective school culture. If this fails, leaders will lose their commitment to the school's community and power that is regarded as basis of headship (Turan & Bektas, 2013). An extensive body of empirical studies clearly ties instructional leadership (IL) to school culture and student performance (Robinson et al., 2008; Leithwood et al., 2010; Hallinger & Heck, 1996).

## Theoretical Framework

The present study was utilizing the Mediated-Effect model purposed by Hallinger and Heck 1998. The model indicates that the leadership style of the principal affects another variable, which in turn affects student success. Studies using the model of mediated effects have shown that school leaders have a lasting impact on student success by the mediation of another variable (Hallinger & Heck, 1998; Kythreotis et al., 2010).

The path goal theory of leadership supported this model. By applying the Mediated-Effects model current study was designed to examine the engagement of students (goals) through school heads' instructional leadership (leadership) using School culture as a path of achieving goals.

Figure 1. *Conceptual framework of the study*

Figure 1, shows the Instructional leadership is a predictor variable, while school culture is mediator variable and student engagement is criterion variable. This conceptual framework is based on Mediating-Effect model of leadership.

## Objective of the Study

Present study was based on the following objective:

1. To find the mediating effect of school culture in the relationship between heads' instructional leadership and students' engagement.

## Research Hypothesis

Following is the null hypothesis for objective 1:

$Ho_{1.1}$:   School culture is not a statistically significant mediator for the relationship between the school heads' instructional leadership and students' engagement.

## Research Methodology

This study is based on a positivist paradigm to understand the phenomenon through a quantitative research design. A survey research approach was used for data collection.

## Population

The target population of the present study was comprised of all the teachers of public secondary schools in province of Punjab. According to census of school education department Punjab (2018), there are 133260 (67346 male and 65914 female) secondary schoolteachers are working in Punjab.

## Sampling

The sample was chosen through multi-stage sampling techniques.36 districts in Punjab were divided into three groups to ensure a true representation of the population on the basis of retention rate issued by an NGO AlifAilaan (2017). Retention rate of student is one of the major factors that can predict Student engagement level at school (Angelle, 2018).

On the basis of retention rate, group one is the highest of the three groups of districts, with a retention rate ranging from 62 percent to 52.12 percent. Group two is the average score among the three groups of districts, with a retention rate ranging from 51 percent to 46.39 percent. The retention rate for the third group was the lowest of the three, ranging from 46 percent to 39.94 percent.

At first stage, researcher selected three districts from each group by using lottery method of simple random sampling technique. At the second stage, researcher selected public secondary schools from each selected district. Every selected district's schools were divided into two strata. i.e. boys and girls. Researcher selected 10% of total schools from each stratum by using proportionate sampling technique. At last stage researcher selected all secondary school teachers of each selected school through cluster sampling technique. Hence, the sample size was consisted of 1016 secondary school teachers.

## Instrumentation

Researcher has used Hallinger's Principal Instructional Management Rating Scale (PIMRS) to test instructional leadership. It was used with the permission of developer. The scale consists of 22 components and 3areas (Defining mission of school; 5 items, managing instructional programme; 8 items, creating learning climate; 9 items). Researcher used three dimensions of the PIMRS in this study for data collection. 135 observational studies were reviewed by Hallinger (2011) with the PIMRS. PIMRS tends to have a clear record that offers accurate and relevant information on principal instructional leadership (Hallinger, Wang & Chen, 2013).

To assess the school culture, researcher has developed questionnaire based on an extensive review of the literature. In this research School Culture was assessed in term of professional values, collegiality, collaboration, and shared planning.

To assess students' engagement, researcher adapted the Academic Enabler subscale (ACES) developed by DiPerna and Elliott (2000), which was used with the developer's permission. The internal consistency range of ACES was found to be 0.92 to 0.98. The stability coefficient for the new test ranges from 0.68 to 0.97 (DiPerna & Elliott, 1999; DiPerna & Elliott, 2000). In this study, a researcher has used an ACES one dimension, engagement to collect data.

## Discriminant Validity

The Discriminant validity tests the degree to which a construct is truly distinct from other constructs. As shown in Table (1) below, the scale with all three variables was further analyzed to verify the validity of the discriminant.

Table 1
*Fornell-Larker Criterion for Discriminant Validity*

|  | Instructional leadership | School culture | Student engagement |
|---|---|---|---|
| Instructional leadership | 0.716 | | |
| School culture | 0.691 | 0.708 | |
| Student engagement | 0.655 | 0.699 | .682 |

Looking at the table 1, above AVEs> R-Squares, the diagonal values (.716,.708,.682) are AVEs, and the parenthesis values (.691,.699,.655) are R-Squares, proving the validity of the three constructs through Discriminant. As a result, the data collection instrument's suitability was verified.

**Pilot Study**

The pilot study was performed in the Lahore public secondary schools. Data was obtained from 40 secondary school teachers (20 male & 20 female). There were 10 schools visited for this reason. Cronbach's alpha is used to verify the reliability of the instrument. The researcher distributed and compiled the questionnaire. There was a 100% response rate. On the basis of the data collected, scale reliability was found at. 93.

Table 2
*Cronbach's alpha Values for the factors and Variable*

| Variable | Factors | Cronbach's alpha values |
|---|---|---|
| Instructional Leadership | Defining Mission of school | .86 |
| | Manage Instructional Program | .87 |
| | Creates Learning Climate | .87 |
| | Overall | .91 |
| School Culture | Professional Value | .89 |
| | Collegiality | .81 |
| | Collaboration | .85 |
| | Shared planning | .81 |
| | Overall | .93 |
| Student Engagement | Behavioral engagement | .83 |
| | Affective engagement | .86 |
| | Cognitive engagement | .89 |
| | Overall | .94 |
| Overall reliability | Items 54 | .93 |

Table 2, shows the Cronbach's alpha value of all three variables (instructional leadership, school culture and student engagement) with their sub-factors.

**Findings**

Objective 1: To assess mediating effect of school culture in the relationship between heads' instructional leadership and students' engagement.

This objective was analyzed through structural equation modeling (SEM) technique to check the mediating effect.

$Ho_{1.1}$:   School culture is not a statistically significant mediator for the relationship between the school heads' instructional leadership and students' engagement.

Table 3
*The Result of Bootstrapping Estimate*

| Parameter | Coefficient | t-value | p-value | Results |
|---|---|---|---|---|
| Total effect (IL->SE) | 0.655 | 27.572 | 0.000 | Significant |
| Direct effect (IL->SE) | 0.109 | 1.480 | 0.139 | Insignificant |
| Indirect effect of IL on SE | 0.546 | 8.662 | 0.000 | Significant |

Note: IL = Instructional Leadership, SE = Student Engagement, SC = School Culture

The total effect of IL on SE is shown in the table 3, is statistically significant ($\beta$=0.655, t= 27.572, p= 0.000), while the direct effect of IL on SE becomes statistically insignificant ($\beta$= 0.109, t=1.480, p=0.139). However the indirect effect of IL on SE through SC is statistically significant ($\beta$=0.546, t= 8.662, p= 0.000). These results show that there is a fully mediation by SC, between the IL and SE. So the null hypothesis "*school culture is not a statistically significant mediator for the relationship between the school heads' instructional leadership and students' engagement* is rejected". It is concluded that school culture is a statistically significant mediator for the relationship between heads' instructional leadership and students' engagement.
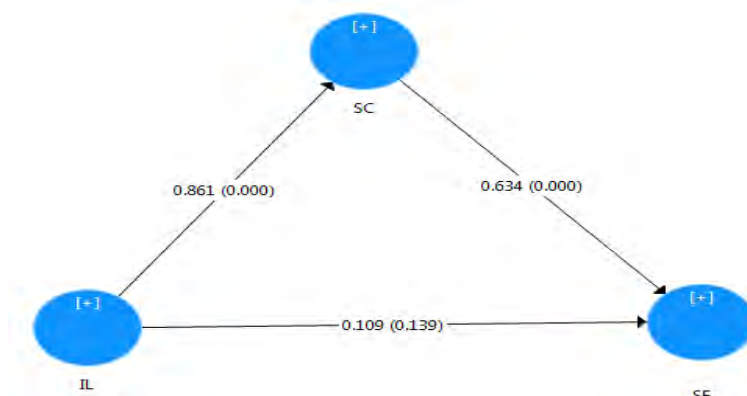


Figure 2. *Bootstrapping with p-value*

In figure 2, bootstrapping with p value clearly indicates that instructional leadership has an indirect influence on student engagement becomes statistically significant, by the mediation of school culture.

**Discussion**

The present study was intended to investigate the mediating role of school culture (SC) in the relationship of heads' instructional leadership (IL) and students' engagement (SE). Structural equation modeling technique has been applied to test the mediating effect of school culture. The role of school culture in achieving students' engagement at school is highlighted in this mediation relationship. The findings show that there is a link between IL and SE, but when the SC is included as a mediator, the direct link is insignificant (see Table 3). This suggests that the SC is a significant mediator in the relationship between IL and SE. School culture creates an opportunity to exchange knowledge through a shared vision and professional values in a collaborative and collegial atmosphere.

According to the findings, school heads should build and encourage school culture in order to improve student engagement at school. It has been discovered that instructional leaders is not a solo struggle; as a result, student engagement in school can only be done by a collective school community. With regard to the association between SC and SE, the findings of this research consistent with other studies in the literature (Ebadollah, 2011; Hoy & Ferguson, 1985; Mott, 1972; Miskel et al., 1979). As per results, the SC acts as a bridge between IL and SE (Hallinger & Heck, 1998). Other researches (Hoy et al., 2006; Leithwood et al., 2004; MacNeil et al., 2009) have shown that the school heads has an indirect impact on students' academic success. The relationship between the principal and student performance is mediated by certain situational events.

However, present study also indicates that there is a connection between instructional leadership and the engagement of students is fully influenced by school culture. In achieving students' engagement, this mediation illustrates the significance of school culture. Via shared vision and professional values, School culture allows students to share their expertise in a collaborative and collegial environment.

**Conclusion**

This research shows that instructional leaders indirectly influence student engagement in school. If the school heads perform instructional leadership, they can develop effective school culture to achieve students' engagement at their school. School culture with these four dimension; shared planning, collegiality, collaboration and professional values can be ensured student engagement.

Furthermore, school culture engages teachers to share knowledge and workload, obtain and provide feedback, assess their progress, focus on student learning outcomes. These factors can help instructional leaders to determine the school mission, create a learning atmosphere, and manage the instructional program. In short, school Culture: train employees by sharing their knowledge, gaining good reputation in the school and shaping outstanding student performance in extracurricular plans and activities. In developing countries, such as Pakistan, the results of present study can be used to bring positive improvements in our public school system.

**Suggestion**

The following suggestion is made:

1. In order to achieve student engagement, school culture plays its role as a catalyst. However, in some cases, the school culture is toxic that must be removed. Researchers may assess whether the school culture is positive, negative, or somewhere in between, with an emphasis on how to transform a toxic school culture into a positive one.

**References**

Ali, N. (2017). *Teachers" perceptions of the relationship between principals" instructional leadership, school culture and school effectiveness in secondary schools in Pakistan* (Doctoral dissertation). Retrieved from https://www. researchgate.net/ publication/317038206

AlifIlan. (2017). *National educational district ranking of Pakistan*. Retrieved from https://elections.alifailaan.pk/district_ranking/

Angelle, F. (2018). *Leadership for student engagement.* (Doctoral dissertation). Retrieved from https://digitalcommons.kennesaw.edu/educleaddoc_etd/12

Appleton, J. J., Christenson, S. L., & Furlong, M. J. (2008). Student engagement with school: Critical conceptual and methodological issues of the construct. *Psychology in the Schools, 45*(5), 369-386.

Aziz, N. A. A., Fooi, F. S., Hassan, A., Asimiran, S. (2014). Instructional leadership: validity and reliability of PIMRS 22-item instrument. *Australian Journal of Basic and Applied Sciences, 8*(23), 200-206.

Bektas, F., Çogaltay, N., Karadag, E., & Ay, Y. (2015). School Culture and academic achievement of students: A meta-analysis study. *The Anthropologist, 21*(3), 482-488.

Bodla, M. A., & Nawaz, M. M. (2010). Comparative study of full range leadership model among faculty members in public and private sector higher education institute and universities. *International Journal of Business & Management*, *5(*4), 208-214.

Brown, K. L. Z. (2005). *An examination of the relationship between school culture and student achievement on Ohio Sixth-Grade Proficiency Tests*. (Doctoral dissertation). Retrieved from https://elibrary.ru/item.asp?id=9355067

Bulris, M. E. (2009). *A meta-analysis of research on the mediated effects of principal leadership on student achievement: Examining the effect size of school culture on student achievement as an indicator of teacher effectiveness*. (Doctoral dissertation). Retrieved from https://thescholarship.ecu.edu/handle/10342/2211

Cunningham, B. C. A. (2003). *A study of the relationship between school culture and student achievement*. (Doctoral dissertation). Retrieved from https://stars. library.ucf.edu/rtd/800

Demirtaş, Z. (2010a). Okulkültürüileöğrencibaşarısıarasındakiilişki [The relationship between school culture and student achievement]. *Eğitimve Bilim Dergisi*, *35*(158), 3-13.

DiPerna, J. C. & Elliott, S. N. (2000). Academic Competence Evaluation Scales. San Antonio, TX: The Psychological Corporation.

DiPerna, J. C., & Elliott, S. N. (1999). Development and validation of the academic competence evaluation scales. *Journal of Psycho educational Assessment*, *17*(3), 207-225.

Ebadollah, A. (2011). Organizational culture and productivity. *Procedia-Social and Behavioral Sciences, 15,* 772-776.

Fraley, C. A. (2007). *School cultures and their correlations with student achievement: An analysis of schools that have improved*. Indiana State University. (Doctoral dissertation). Retrieved from https://search.proquest.com/openview/ e135bbf86ac059c213b0e54b6ed21a8e/1?pq-origsite=gscholar&cbl =18750&diss=y

Gruenert, S. (2005). Correlation of collaborative school cultures with student achievement. *Nassp Bulletin, 89*(645), 43-55.

Hallinger, P. (2011). A review of three decades of doctoral studies using the principal instructional management rating scale: A lens on methodological progress in educational leadership. *Educational Administration Quarterly*, *47*(2), 271-306.

Hallinger, P., & Heck, R. H. (1996b). Reassessing the principal's role in school effectiveness: A review of empirical research, 1980-1995.*Educational Administration Quarterly, 32*(1), 5-44.

Hallinger, P., & Heck, R. H. (1998). Exploring the principal's contribution to school effectiveness, 1980-1995.*School Effectiveness and School Improvement*, *9*(2), 157-191.

Hart, S. R., Stewart, K., & Jimerson, S. R. (2011). The student engagement in schools questionnaire and the teacher engagement report form-new (TERF-N): Examining the preliminary evidence. *Contemporary School Psychology: Formerly the California School Psychologist*, *15*(1), 67-79.

Heaven, G., & Bourne, P. A. (2016). Instructional leadership and its effect on students' academic performance. *Review Pub Administration and Management*, *4*(3), 1-20.

Hoy, W. K., & Ferguson, J. (1985). A theoretical framework and exploration of organisational effectiveness of schools. *Educational Administration Quarterly, 21*(2), 117-134.

Hoy, W. K., Tarter, C. & Hoy, A. (2006). Academic optimism of schools: a force for student achievement. *American Educational Research Journal, 43*(3), 425–446.

Koçyiğit, M. (2017). The effect of school culture on student achievement. In *The Factors Effecting Student Achievement* (pp. 183-197). Springer, Cham.

Kythreotis, A., Pashiardis, P., & Kyriakides, L. (2010). The influence of school leadership styles and culture on students' achievement in Cyprus primary schools. *Journal of Educational Administration*, *48*(2), 218-240.

Leithwood, K., Louis, K. S., Wahlstrom, K., & Anderson, S. (2004). How successful leadership influences student learning. *Second International Handbook of Educational Change*, 23, 611-629. doi:10.1007/978-90-481-2660-6_35.

Leithwood, K., Patten, S., & Jantzi, D. (2010). Testing a conception of how school leadership influences student learning. *Educational administration quarterly*, *46*(5), 671-706.

MacNeil, A. J., Prater, D. L., & Busch, S. (2009). The effects of school culture and climate on student achievement. *International Journal of Leadership in Education*, *12*(1), 73- 84.

Masuku, S. (2011). *The instructional leadership role of the high school head in creating a culture of teaching and learning in Zimbabwe* (Doctoral Dissertation, University of South Africa). Retrieved from http://uir.unisa.ac.za/xmlui/bitstream/handle/ 10500/ 7741/thesis_masuku_s.pdf?sequence=1

Melesse, S., & Molla, S. (2018). The contribution of school culture to students' academic achievement: The case of secondary and preparatory schools of Assosa zone, Benshangul Gumuz regional state, Ethiopia. *Istraživanja u Pedagogiji, 8*(2), 190-203.

Miskel, C. G., Fevurly, R., & Stewart, J. (1979). Organisational structures and processes, perceived school effectiveness, loyalty, and job satisfaction. *Educational Administration Quarterly, 15(*3), 97-118.

Mott, P. E. (1972). *The characteristics of effective organisations.* Harper Collins Publishers.

Robinson, V., Lloyd, C., & Rowe, K. (2008). The impact of leadership on student outcomes: An analysis of the differential effects of leadership types. *Educational Administration Quarterly, 44*(5), 635-74.

Swindler, N. H. (2009). Middle school cultures and student achievement. (Doctoral dissertation, The University of Southern Mississippi, the USA). Retrieved from https://aquila.usm.edu/dissertations/1030/

Turan, S., & Bektas, F. (2013). The relationship between school culture and leadership practices. *Egitim Arastirmalari-Eurasian Journal of Educational Research, 52*, 155-168.

Wang, M., & Eccles, J. S. (2012). Adolescent behavioral, emotional, and cognitive engagement trajectories in school and their differential relations to educational success. *Journal of Research on Adolescence, 22*(1), 31-39.

Wang, M., & Fredricks, J. A. (2014). The reciprocal links between school engagement, youth problem behaviors, and school dropout during adolescence. *Child Development, 85*(2), 722-737.

Witziers, B., Bosker, R., & Kruger, M. (2003). Educational leadership and student achievement: The elusive search for an association. *Educational Administration Quarterly, 39*(3), 398- 425.

Yasin, A. (2017). Punjab to take action against school principals for high dropout rate. *The Dawn Post*. Retrieved from https://www.dawn.com/news/1306879

Yasin, M. M., Ramly, M. A., Pihie, L. A. Z., & Basri, R.. (2017). The mediating effect of school culture in the relationship between instructional leadership and school academic achievement. *Imperial Journal of Interdisciplinary Research (IJIR), 3*(11), 2454-1362.