

Full Length Research Paper

Linking organizational health in Jeddah secondary schools to students' academic achievement

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This study aimed to assess organizational health (OH) in secondary schools in Jeddah district in Saudi Arabia. A second aim of the study was to compare the organizational health of these schools according to their rankings on student achievement tests, school type and the nature of the respondents' work. The Organizational Health Inventory (OHI), developed by Hoy and Feldman (1987), was used to examine OH in the subject schools. The (138) secondary schools in Jeddah district were classified into three main categories (high, average, low) based on their students' results on the achievement test for science colleges, which is given annually across the nation by the National Center for Assessment in Higher Education (NCAHE). With the school and not the respondent selected as the unit of research, 20 random schools from each category were compared using the ratings of "high"-achieving, "average"-achieving and "low"-achieving schools, as measured by the NCAHE, on the 7 dimensions of the OHI. All the principals and teachers working in the three selected representative school categories were approached in the process of data collection. The secondary schools' OH scores were found relatively high. The high-achieving schools had higher OH scores than the schools in other two categories. Moreover, the average-achieving schools outperformed the low-achieving schools on overall OH scores. Findings also showed that the private schools had healthier climates than the public schools. Schools can help improve their student learning process and academic attainment by improving the health of their organizational environment.

Key words: Organizational health, school health, school climate, secondary schools, student achievement.

INTRODUCTION

Many organizational theorists and researchers have suggested that giving attention to the school climate would make a difference in the learning environment and student attainment (Bossert, 1988; Goddard et al., 2000; Grosin, 1991; Hoy et al., 1998). Similarly, Hoyle et al.

(1985) noted that "without a climate that creates a harmonious and well-functioning school, a high degree of academic achievement is difficult, if not downright impossible to obtain" (p. 15). In contrast, Hoy and Hannum (1997) stated that the "concept of school climate

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itself is defined in a myriad of ways and is often merely a slogan rather than a carefully defined and meaningful construct" (p. 291). Therefore, researchers have used additional metaphors. Each metaphor, in its own way and from its own perspective, strives to capture the enduring quality of the school environment, which educators sometimes refer to as the school climate, through the collective perceptions of teachers and administrators (Hoy and Miskel, 1991; Hoy and Clover, 1986). Among these metaphors for school climate is organizational health (OH) (Hoy and Tarter, 1992), which is another perspective for examining school climate (Hoy et al., 1998).

Using the concept of OH as a metaphor to address school climate, many studies especially in the United States, have suggested that analyzing OH is essential to improving schools' effectiveness (Bolding, 1982). Other researchers have emphasized OH's crucial role in students' achievement in secondary schools (Hoy et al., 1991). Additionally, Hoy and Hannum (1997) noted that healthy schools are characterized by comparatively effective professional practices, emphasis on student learning outcomes and high teacher commitment.

Hoy et al. (1990) found that the Organizational Health Inventory (OHI) was strongly related to student achievement and that the school climate instruments (OCDQ-RS) were not strong predictors in this respect. Other research found a close relationship between school climate variables and student attainment. For example Bulach et al. (1994) revealed that students attending schools known for a positive culture had higher achievement than others attending schools with a negative climate. Hoy and Hannum (1997) later conducted a study focusing on OH and student achievement and revealed a significant relationship between the dimensions of OH and student achievement. Furthermore, OH theory has identified the dimensions that show the greatest impact on student performance to be goal focus, cohesiveness, adaptation, and autonomy (Fairman and McLean, 2003).

Relatedly, the Australian Council for Educational Research (ACER) published a 2004 report indicating that students at schools that develop a positive climate might also show greater academic achievement. Soon thereafter, Korkortsi (2007) asserted in his Ph.D. dissertation that the dimensions of a school's OH were significantly related to the students' academic attainment. Moreover, his study recommended that Ghanaian schools should improve their OH to facilitate student achievement.

A simultaneous study by Roney et al. (2007) revealed a positive relationship between middle schools' overall scores on the organizational health scale and their students' reading scores. Macneil et al. (2009) found that students attained better scores on standardized tests in schools characterized by healthy learning environments. Recent OH research has been based on five years of

student performance and OH data. Fairman and McLean (2011) reported that the three dimensions of OH that showed the greatest impact on student performance are goal focus, cohesiveness, and adaptation.

In a related context, Brosnahan (2011) used the inventory developed by the OH diagnostic and development corporation to determine whether there is a correlation between the sample schools' OH scores and their students' achievement. The study revealed that the top five dimensions with the greatest impact on student achievement were "cohesiveness", "adaptation", "goal focus", "communication", and "autonomy". Based on these findings, it is apparent that exemplary schools had healthier climates than schools characterized as less-recognized institutions.

In summary, research from the 1960s through the 2000s and continuing today largely agrees that OH is a useful concept for addressing the health of a school's climate and that it has a great impact on academic outcomes. It can also provide school leaders and educators with ideas for school aspects that could have gone without adequate attention. Organizational health, according to Hoy and Hannum, (1997), can be used as a gauge for reform in schools.

In Saudi Arabia, improving pupils' performance in the basic schools has been a priority for the Ministry of Education, the directorates of education, the offices of education, the schools themselves, and the Saudi public. All of these groups dream of an effective basic education that enhances pupils' opportunities to join the labor market and continue their education, eventually leading to their success in life. In view of this, King Abdullah Bin Abdul-Aziz Public Education Development Project (Tatweer), embarked in 2007, is the corner stone of institutional and organizational development of public education. The project seeks to improve the overall quality of public education and uplift the students' learning outcomes through four main programs that represents the pivots of the educational process as follows (Ministry of Education, 2008: p. 27):

1. Teachers' rehabilitation program.
2. Curriculum development program.
3. Educational environment enhancement program
4. Non-class activity support program

Ten years after this project was launched, the achievement of students in secondary schools still does not amount to the desired expectations. Reviewing the results of secondary school students on the achievement tests conducted by the NCAHE, an apparent weakness is often observed in their performance. A technical report released by the NCAHE revealed that the Biology, Chemistry, Physics, English and Mathematics skills were significantly low and that there was an increasing weakness in the cognitive skills that require higher

thinking skills (Al-Harbi, 2012).

Moreover, The National Strategy for Transformation into Knowledge Society (2014) pointed that "the education sector exhibit serious structural problems such as poor academic performance of the students, shortage of competent teachers, and weak competition among schools" (Ministry of Economics and Planning, 2014: p. 24). The National Strategy for the Development of Public Education (2014) pointed that quality of education requires the provision of quality inputs and the creation of an educational environment that is healthy, safe, protective with adequate resources and facilities. This highlights the influential role of organizational health which is, according to Hoy and Hannum (1997), an essential factor of school effectiveness.

From the reports released annually by the NCAHE, it is evident that some secondary schools in Jeddah district have maintained high student academic achievement, other schools are noted for average achievement, and still many other schools are noted for weak achievement. The reason for this varying academic achievement has not yet been explored.

We then considered OH theory and that the healthier an organization is, the higher the achievement (Fairman and McLean, 2003), that researchers and theorists have shown that a school's OH is critical and that a healthy school climate promotes high student achievement (Brosnahan, 2011; Fairman and McLean, 2003; Henderson et al., 2005; Hoy and Hannum, 1997; Hoy et al., 1990; Hoyle et al., 1985; Korkortsi, 2007; Macneil et al., 2009; Roney et al., 2007). The question then arises: Might these differences be related to the health of the schools' climates? Do we then attribute these differences in student academic achievement to the schools' OH?

However, there is no available research in Saudi Arabia regarding OH or its effects on student achievement. In other words, it is fair to state that the concept of OH has not yet been introduced into the Saudi educational literature. Because there were previously no studies on schools' OH conducted in Jeddah district or anywhere else in Saudi Arabia, and because school health is an essential factor in school effectiveness and student achievement, a study is needed to explore the current OH of the secondary schools in Jeddah district and to explore any differences among these schools regarding their rankings on student achievement tests.

Research questions

The study sought to answer the following questions:

1. What is the level of OH in secondary schools in the Jeddah district?
2. Are there any significant differences in the OH of secondary schools in the Jeddah district that may be due

to their rankings on student achievement?

3. What differences exist among the participants' perceptions of the level of OH in secondary schools in the Jeddah district in relation to differences in their school types (public/private) and the nature of their work (principal/teacher)?

Significance of the Study

The study is significant for a number of reasons. First, its outcomes could provide important information for the development and improvement of secondary schools in Saudi Arabia. Educational planners, administrators and policy-makers could use this information to determine problem areas in the secondary school environment and improve the performance of Saudi Arabian learners. Likewise, the present study would provide researchers with an exploratory measure (the Arabic Version of (OHI-S) for assessing a school's health. Moreover, the current study could greatly benefit the educational directorate in Jeddah as well as principals and teachers in secondary schools as they attempt to create healthy climates in their schools and therefore promote student achievement.

The results of the study could provide the directorate with useful information regarding the health of the climate that prevails in the district's secondary schools. The outcomes would also help the directorate learn of areas of weakness in school health that may negatively affect student learning; hence, certain decisions can be made and actions taken to address the sources of the imbalances.

Furthermore, the study will give secondary school teachers a clear picture of what types of behaviors can promote and support a healthy climate that helps improve academic achievement in their schools.

Above all, because there are no studies that address schools' OH in Saudi Arabia, the present study will be the first of such study and will guide to further studies in the Saudi educational field.

THEORETICAL BACKGROUND

The concept of OH was first introduced and developed by Matthew Miles in 1965 to conceptualize and define some specific features of the organizational climate of a school. It was also associated with the Parsonian concept of the school as a social system (Parsons, 1967). In his study of the innovative processes in schools, Miles (1965) found that the school environment has a great impact on productivity. Moreover, Miles developed a scale of ten dimensions in an attempt to explore the main aspects of healthy schools. These dimensions were "goal focus", "communication adequacy", "optimal power equalization", "resource utilization", "cohesiveness", "morale",

"innovativeness", "autonomy", "adaptation", and "problem-solving adequacy".

Accordingly, Miles (1969) confirmed that a healthy organization is one that "not only survives in its environment, but continues to cope adequately over the long haul, and continuously develops and expands its coping abilities" (p. 378). He added that "a healthy organization is the one which is not static in its existing setting, but is ever developing itself and its skills to handle and carry on" (p. 378). To clarify Miles' concept, Hoy and Hannum (1997) asserted that "this definition implies that healthy organizations are those that are able to cope or manage successfully with disruptive outside forces while directing their energies towards the mission and objectives of the organization".

Additionally, Hoy and Hannum (1997) defined a "healthy school" as "one in which the technical, managerial and institutional levels are in harmony and the school is meeting its basic needs as it successfully copes with disruptive external forces and directs its energies towards its mission" (p. 264).

Childers (1985) stated that "Organizations, like the people who comprise them, can be either healthy or sick. The healthy organization is functional, while the sick organization is dysfunctional" (p. 4). Similarly, Neugebauer (1990) noted that "for the body to be healthy, a myriad of bodily functions must operate in perfect harmony. Likewise for an organization to be healthy, a complex array of interpersonal and administrative functions must be addressed simultaneously" (p. 38).

Fairman and McLean (2003) defined OH as "an organization's ability to function effectively, to cope adequately, to change appropriately, and to grow from within". In addition to these attempts to define the concept, much research has sought to address school health to understand various aspects of the school organizational climate. Kimpston and Sonnabend (1973) conducted a study to determine whether there is a relationship between schools' OH and capacity to change and innovate. The study revealed that teachers perceive their schools' OH more positively in institutions that are known to be innovative. They also found that the most influential factors in this respect were innovativeness, decision-making, and the school's relationship with the community.

Hoy and Feldman (1987) later formulated an OH inventory containing seven dimensions to measure schools' OH. This inventory was used and greatly supported by Hoy et al. (1991). In their book "Open Schools/Healthy Schools," they emphasized the importance of OH for students' academic achievement in secondary schools (Hoy et al., 1991). Hoy and Feldman (1987) and Hoy and Miskel (1991) classified these seven dimensions into three main levels: institutional, managerial, and technical. According to them, the institutional

level includes only "institutional integrity". The managerial level include "principal influence, consideration, initiating structure and resource support". The technical level includes "morale and academic emphasis". The seven dimensions were clearly defined by Hoy et al. (1991) as follows:

- **Institutional integrity:** is "the school's ability to cope with its environment in a way that maintains the educational integrity of its programs".
- **Principal Influence:** is "the principal's ability to influence the action of his superiors".
- **Consideration:** is "principal behavior that is friendly, supportive, open, and collegial; it is a genuine concern, on the part of the principal, for the welfare of the teachers".
- **Initiating structure:** refers to "the ability of the principal to engage in behavior that clearly defines performance standards, work expectations, and school procedures".
- **Resource support:** refers to "schools where adequate classroom supplies and instructional materials are available and extra materials are readily supplied if requested".
- **Morale:** is "a collective sense of friendliness, openness, enthusiasm, and confidence among faculty members".
- **Academic emphasis:** refers to "the extent to which the school is driven by a quest for academic excellence" (p. 62).

Additionally, they stated that "institutional integrity serves as an indicator of health at the institutional level. Principal influence, consideration, initiating structure, and resource support provide measures of the health of the managerial system. Morale and academic emphasis are the indices of health at the technical level. Each of these dimensions of OH is measured by a subset of the OHI" (Hoy et al., 1991).

In another attempt to develop a reliable scale for OH in secondary schools, Hart et al. (2000) conducted a 3-phase study to develop a psychometric scale that was valid and reliable for measuring teacher morale and the different dimensions of organizational climate in secondary schools. The three-phase study concluded with a "School Organizational Health Questionnaire" containing 12 dimensions: "teacher morale", "appraisal and recognition", "curriculum coordination", "effective discipline policy", "excessive work demands", "goal congruence", "participative decision-making", "professional growth", "professional interaction", "role clarity", "student orientation", and "supportive leadership".

Focusing on student learning, Hoy and Hannum (1997) and Hoy and Miskel (1991) emphasized that in schools characterized as "healthy", the institutional, managerial and technical aspects are in "harmony", and this harmony should manifest in both the teaching process and student learning outcomes. Similarly, Pakkeer-Jaufar (2001) found

that improving the quality of the OH factors in secondary schools resulted in better student achievement. In a related context, Farahani et al. (2014) found positive significant relationships between schools' OH and their students' academic achievement.

Likewise, Licata and Harper (1999) reported that "academic emphasis" is a crucial predictor for understanding the relationship between school health and robustness. Licata and Harper (2001) and Korkmaz (2006) found a significant positive relationship between a school's health and the robustness of its vision. Considering OH an indicator of school climate, Villiers (2006) sought to determine primary school educators' perceptions of school climate. A significant relationship was found between the perceptions of primary school educators with regard to organizational climate and OH.

Examining teacher characteristics as possible predictors of school health, Bevans et al. (2007) indicated that school and staff characteristics are predictors of a school's OH. Furthermore, the study revealed that some school and staff characteristics interacted to predict collegial leadership and staff affiliation. Other researchers have focused on the nature of workplace factors as possible influences on school health, such as Cemaloglu (2007), who found a negative relationship between school health and teachers' exposure to bullying and that OH was a predictor of bullying.

In another attempt to establish such a relationship, Sabanci (2011) examined the relationship between teacher stress and a healthy school organization. The article found a significant negative relationship between teachers' stress levels and OH. Regarding organizational trust, Smith (2000) found a significant positive relationship between the dimensions of faculty trust and the determinants of health in high schools.

In conclusion, OH is clearly an important approach that could effectively provide a conceptual framework for addressing school climate. OH has been shown to reflect and predict many school issues, such as student learning; teacher efficacy; school effectiveness; collegial trust; workplace stressors; negative behaviors, such as bullying; leadership styles; school robustness; decision-making; innovativeness; and school-community relations. The present study appears to be the first to address the concept of OH in the Saudi educational context.

METHODOLOGY

This descriptive study will seek to describe the current situation of OH in secondary schools in Jeddah district. It will also analyze and interpret the existing differences among those schools on the OH scale that relate to the schools' rankings on the student academic achievement tests. A descriptive study describes and interprets the situation as it exists. Best and Kahn (1998) stated that descriptive research "is concerned with conditions or relationships that exist, opinions that are held, processes that are going on, effects that are

evident, or trends that are developing" (p. 113). They added that "descriptive research deals with the relationships between variables, the testing of hypotheses, and the development of generalizations, principles, or theories that have universal validity. It is concerned with functional relationships" (p. 144).

Considering this study's purpose and questions and the magnitude of its target population, the descriptive survey appears the most suitable method for achieving the purpose of the study and reaching meaningful conclusions. Scott and Usher (1996) stated that survey research attempts to collect data about larger populations than are typical in experimental research.

Population and Sampling

The unit of analysis in this research was the school (Hoy et al., 1991; Hoy and Sabo, 1998) and not the respondent; the target population for this study comprised all (government and private) secondary schools in Jeddah district. The 138 secondary schools were categorized into three main achievement levels based on their students' scores on the Achievement Test for Science Colleges, which is given annually across the nation by the NCAHE. Namely, they are "high" achieving schools, "average" achieving schools and "low" achieving schools. A representative sample from each of the three categories was selected as the schools to which the survey would be given. From the 138 secondary schools, 20 schools were selected randomly from each category. After having these schools accepted to be part of the study, all the principals and teachers working in the three selected representative school categories were approached in the process of data collection. This 60-school sample included 857 responses from teachers and principals that were used to test the hypotheses of this research. The sample of 60 schools appears appropriate for a study that uses the school as the unit of analysis. Between 40 and 50 schools have been found to have sufficient statistical power for scholarly research (Goddard et al., 2000).

Instrument

"The Organizational Health Inventory for Secondary Schools (OHI-S)" was used as a data collection instrument. This inventory was used first by Hoy and Feldman (1987) and Hoy and Forsyth (1986). In their "Open Schools/Healthy Schools", Hoy et al. (1991) published this inventory and emphasized its validity and reliability for examining the OH of secondary schools. Other researchers have examined the OHI in terms of validity and reliability (Hoy and Hannum, 1997; Hoy et al., 1990; Korkmaz, 2006, 2007; Korkortsi, 2007; Licata and Harper, 2001).

The inventory is a 44-item survey for secondary schools. The OHI consists of the seven dimensions stated earlier: "institutional integrity, principal influence, consideration, initiating structure, resource support, morale, and academic emphasis". On that questionnaire, principals and teachers determine the extent to which specific behavior patterns occur in their schools. The 44 items are rated on a 5-point Likert scale. They range from 1 (rarely) to 5 (very frequently). Alpha coefficients in Hoy et al. (1991) for the seven subscales ranged from 0.87 to 0.95. Additionally, construct validity of the OHI has been supported by several studies (Hoy et al., 1991; Hoy and Sabo, 1998).

In the current study, the (OHI-S) was used as a data collection tool but underwent a process of adaptation for linguistic and cultural issues that influence the Saudi educational system. Moreover, a pilot study of 15 selected secondary schools with characteristics comparable to those of the target population was executed. These

schools were not included in the study sample. One hundred ten responses from teachers and principals were collected in that stage. Reliabilities for the seven subsets ranged from 0.84 to 0.92. The alpha coefficient for the entire scale was found to be 0.96, which is a very high level of reliability for this scale. The construct validity of the (OHI-S) was also supported in the current study. The seven dimensions were highly correlated with the overall scale. The correlations ranged from 0.72 to 0.90 and were all significant at the 0.01 level. The inter-correlations among the seven dimensions were also high, significant at the 0.01 level, and in the positive direction.

Data on student achievement were obtained from the annual report published by NCAHE based on students' results on the achievement test for science colleges. The report lists the rankings of schools across the Kingdom and shows these school rankings according to their educational directorates.

Jeddah secondary schools' classifications depend on the average performance of their students during the previous three years - 2012, 2013 and 2014. This formula is intended to ensure the stability of the school rankings and prevent influence by natural fluctuations. The standards adopted for the school accountability ratings are as follows:

- High-achieving schools - the average of the students' performance is 70 or above.
- Average-achieving schools - the average of the students' performance is between 65 and 70.
- Low-achieving schools - the average of the students' performance is less than 65.

FINDINGS

The first question was "*How are the organizational health levels of the secondary schools in the Jeddah district?*" The means and standard deviations are shown in Table 1. The statistics in the aforementioned table show a high level of OH in Jeddah secondary schools with a mean of (3.72). All seven dimensions have high levels of occurrence. "Initiating Structure" was ranked first, with a mean of (4.07), and "Resource Support" was last with a mean of (3.51). The standard deviations ranged from (0.90 to 0.52), which indicates convergence among the respondents in their estimation of the dimensions of OH.

For the overall OH and the seven dimensions, high-achieving schools have higher mean values than the average- and low-achieving schools. The high-achieving schools had high levels of OH and its seven dimensions. Similarly, the average-achieving schools had relatively high levels of OH and its seven dimensions, except for resource support. However, the low-achieving schools attained levels that ranged from relatively high to average on the seven subscales.

To answer the second question, *Are there any significant differences in the organizational health of the secondary schools in the Jeddah district that are related to the schools' rankings on student achievement tests?*, One-way analysis of variance was used, as shown in Table 2. As is clear from the table, there are significant differences ($p < 0.01$) among the three school rankings regarding their scores on the OH scale and its seven subscales in

relation to student achievement. To explore the directions of these differences among the three categories in student academic achievement scores and to determine which categories had higher scores, post hoc comparisons were calculated using the Scheffe test.

For the seven dimensions and the overall OH, the results of the Scheffe test indicate significant differences between the "high-achieving" schools and the "average-achieving" and "low-achieving" ones. In other words, the "high-achieving" schools scored higher on OH and its seven subscales scores than the schools in the other two school categories; the "high-achieving" schools were healthier than the "average-achieving" and "low-achieving" schools. Additionally, a Scheffe test for OH and the seven dimensions, except for "Institutional Integrity" and "Resource Support", indicated a significant difference between the "average-achieving" and "low-achieving" schools in favor of the "average-achieving" ones. This finding probably means that the higher schools scored on OH, the higher scores their students attained on the student achievement tests.

To answer the third question, *What differences exist among the participants' perceptions of the level of OH in secondary schools in the Jeddah district in relation to differences in their school types (public/private) and the nature of their work (principal/teacher)?* A t-test was used, as shown in Tables 3 and 4 to explore such differences on the OH scale and subscales. As shown in the table, private schools obtained higher means than public schools on the OH scale and the seven subscales. It is also apparent that the (t) values were all significant ($p < 0.01$) for the scores on overall OH and the seven subscales. Consequently, there are significant differences ($p < 0.01$) between public and private schools regarding OH. It can be noted from the table that private schools outperformed public schools in all seven dimensions. In other words, the private schools had healthier climates than the public schools.

As seen in Table 4, there were no significant differences between the principals and teachers in their perceptions of the OH of their schools in general or in their perceptions of initiating structure, consideration, morale and academic emphasis. This finding could be because principals and teachers largely converge in their perceptions and awareness of the implications of these dimensions. For institutional integrity ($u = 9362.5$, $p < 0.05$) and resource support ($u = 9068$, $p < 0.05$), significant differences were found between the principals and teachers in that the principals gave higher ratings.

DISCUSSION

The findings of the study have shown that the OH of the high-achieving schools in the Jeddah district was essentially characterized by high or very high levels of overall OH and its seven dimensions. The OH of school

Table 1. Means and Standards Deviations of Jeddah Secondary Schools on OH Scale and Subscales.

OH Dimensions	Source of Variation	Sum of squares	Mean square	df	F	Sig.
Institutional Integrity	Between Groups	7.854	3.927	2	14.772	0.000
	Within Groups	227.013	0.266	854		
	Total	234.867	-	856		
Initiating Structure	Between Groups	50.560	25.280	2	42.111	0.000
	Within Groups	512.670	0.600	854		
	Total	563.230	-	856		
Consideration	Between Groups	37.721	18.860	2	26.120	0.000
	Within Groups	616.637	0.722	854		
	Total	654.358	-	856		
Principal Influence	Between Groups	22.850	11.425	2	21.996	0.000
	Within Groups	443.575	0.519	854		
	Total	466.425	-	856		
Resource Support	Between Groups	89.610	44.805	2	61.847	0.000
	Within Groups	618.677	0.724	854		
	Total	708.287	-	856		
Morale	Between Groups	31.015	15.507	2	31.641	0.000
	Within Groups	418.546	0.490	854		
	Total	449.560	-	856		
Academic Emphasis	Between Groups	50.550	25.275	2	45.935	0.000
	Within Groups	469.895	0.550	854		
	Total	520.445	-	856		
Total OH	Between Groups	36.649	18.324	2	46.992	0.000
	Within Groups	333.011	0.390	854		
	Total	369.660	-	856		

Health was found to be moderately high in the average-achieving schools except for "initiating

structure," which was found to have a very high level of occurrence. Meanwhile, the low-achieving

schools obtained either relatively high or average scores on all the seven dimensions and overall

Table 2. One-Way Analysis of Variance (differences in the organizational health of the secondary schools in relation to their rankings on student achievement tests)

School Category or Rank	M, N, SD	Institutional Integrity	Initiating Structure	Consideration	Principal Influence	Resource Support	Morale	Academic Emphasis	Total OH
High Achieving	M	3.6294	4.2896	3.9772	3.8005	3.8646	4.1006	3.8911	3.9362
	N	395	395	395	395	395	395	395	395
	SD	0.50910	0.71968	0.84687	0.71864	0.84167	0.66859	0.72273	0.62309
Average Achieving	M	3.5111	4.0567	3.7359	3.5077	3.2908	3.8780	3.5255	3.6437
	N	247	247	247	247	247	247	247	247
	SD	0.48922	0.65521	0.75672	0.63750	0.85599	0.62255	0.69120	0.54036
Low Achieving	M	3.3953	3.6874	3.4610	3.4409	3.1481	3.6331	3.3172	3.4404
	N	215	215	215	215	215	215	215	215
	SD	0.55543	0.97395	0.95016	0.80918	0.86282	0.82903	0.82758	0.71112
All Schools	M	3.5366	4.0714	3.7782	3.6259	3.5194	3.9192	3.6418	3.7275
	N	857	857	857	857	857	857	857	857
	SD	0.52381	0.81116	0.87432	0.73817	0.90964	0.72470	0.77974	0.65715

OH. It was therefore obvious that the three categories of schools differed in their OH. Generally, the OH of the secondary schools in the Jeddah district was found to be relatively healthy.

According to the research findings, the schools' OH shows meaningful differences based on the schools' rankings in student achievement test scores. For the seven dimensions and the overall OH, the "high-achieving" schools outperformed the schools in the other two school categories. Moreover, the "average-achieving" schools outperformed the "low-achieving" schools in overall OH and the seven dimensions, except for "Institutional Integrity" and "Resource Support". It can be concluded that the better a school's overall OH is, the more its students will achieve. Therefore, schools can help improve their student

learning process and academic attainment by improving the health of their organizational environment. These findings are consistent with those of other researchers and theorists - that a healthy school climate promotes high student achievement (Brosnahan, 2011; Fairman and McLean, 2003; Henderson et al., 2005; Hoy and Hannum, 1997; Hoy et al., 1990; Hoyle et al., 1985; Korkortsi, 2007; Macneil et al., 2009; Roney et al., 2007).

The findings of the study also showed significant differences between public and private schools regarding OH. Private schools outperformed public schools in all seven dimensions and in overall OH. Although this effect appears to be small in this respect, private schools seem to have healthier climates than public schools. These findings might

be attributed to their fine buildings and facilities, good employment system of teachers, and balanced relations with the local community. In private schools, there is probably more emphasis on student achievement and learning outcomes. All of these reasons and others might collectively explain why private schools outperformed public schools on OH. The research also found no significant differences between principals and teachers regarding their perceptions of the OH of their schools in general or of initiating structure, consideration, morale and academic emphasis. However, significant differences were found between teachers and principals regarding institutional integrity and resource support such that the principals gave higher ratings. This is probably because teachers have ambitions,

Table 3. T-Test ((differences in the organizational health between public and private schools).

OH dimension	School type	N	Mean	SD	T	Sig
Institutional Integrity	Public	560	3.4699	0.51873	-5.199	0.00
	Private	297	3.6625	0.51088		
Initiating Structure	Public	560	3.9296	0.81162	-7.233	0.00
	Private	297	4.3387	0.74099		
Consideration	Public	560	3.6466	0.86857	-6.178	0.00
	Private	297	4.0262	0.83157		
Principal Influence	Public	560	3.4514	0.69996	-10.040	0.00
	Private	297	3.9549	0.69592		
Resource Support	Public	560	3.3167	0.84868	-9.408	0.00
	Private	297	3.9018	0.89898		
Morale	Public	560	3.7942	0.71793	-7.133	0.00
	Private	297	4.1549	0.67830		
Academic Emphasis	Public	560	3.4946	0.76308	-7.849	0.00
	Private	297	3.9192	0.73512		
Total OH	Public	560	3.5862	0.63344	-9.045	0.00
	Private	297	3.9940	0.61808		

Table 4. Mann-Whitney U (differences among principals and teachers regarding their perceptions of OH in their schools).

OH Dimensions	Nature of work	N	Mean	Sum of ranks	Mann-Whitney U	Sig
Institutional Integrity	Principal	29	520.16	15084.50	9362.500	0.043
	Teacher	828	425.81	352568.50		
Initiating Structure	Principal	29	501.03	14530.00	9917.000	0.109
	Teacher	828	426.48	353123.00		
Consideration	Principal	29	499.22	14477.50	9969.500	0.120
	Teacher	828	426.54	353175.50		
Principal Influence	Principal	29	489.53	14196.50	10250.500	0.179
	Teacher	828	426.88	353456.50		
Resource Support	Principal	29	530.31	15379.00	9068.000	0.025
	Teacher	828	425.45	352274.00		
Morale	Principal	29	478.12	13865.50	10581.500	0.276
	Teacher	828	427.28	353787.50		
Academic Emphasis	Principal	29	496.53	14399.50	10047.500	0.135
	Teacher	828	426.63	353253.50		
Total OH	Principal	29	512.50	14862.50	9584.500	0.065
	Teacher	828	426.08	352790.50		

expectations and aspirations in this regard and as a result give lower rating than principals for the status of those two dimensions. Concerning institutional integrity, teachers may desire systems that protect them from parents' irrational interventions and reduce pressure from the local community. Regarding resource support, teachers may believe that the already-existing resources - either the instructional materials or other supplementary materials, are not sufficient to help them carry out their duties efficiently.

Conclusions

The main conclusion of the study is that the stronger the overall organizational health of a school, the higher student achievement. Schools can, therefore, influence student learning and academic achievement by improving the health of their climates. A healthy school climate is characterized by "institutional integrity", "principal influence", "consideration", "initiating structure", "resource support", "morale", and "academic emphasis".

The OHI-S appears to be applicable to the Saudi educational context. It can provide insights for school leaders, both teachers and administrators, into aspects of their schools that could have gone unnoticed. School administrators are recommended to use it as a continuing assessment tool as they attempt to create healthy climates in their schools. This inventory would give teachers and administrators a clear picture of what types of practices can promote and support a healthy climate that helps improve academic achievement in their schools.

RECOMMENDATIONS

Because we depend on the school rankings in student achievement tests to explore the relationship between OH and academic achievement, it is important to investigate this relationship through the linkage between the school's overall score on the OH scale and the actual average score (as a percentage) achieved by its students on the achievement tests. This method would provide a clearer and more accurate understanding of the nature of this relationship. Additional data collection instruments should also be used to survey the status of OH. These instruments include those of Kimpston and Sonnabend (1973) and Hart et al. (2000) and the Inventory developed by the OH Diagnostic and Development Corporation. Cultural and linguistic characteristics should be taken into consideration when translating the instruments into Arabic.

It is important to attempt to develop a reliable scale for OH for Saudi secondary schools. These attempts should be multi-phased studies for the sake of developing a

psychometric scale that reliably assesses schools' OH. Future studies on OH should enhance the qualitative research method. Structured interviews would hopefully help minimize the drawbacks of qualitative methods in this regard.

It is worth studying and surveying OH by focusing on other population, such as female schools and offices of education. Surveying students' opinions about the OH of their schools could be a different way to address OH. Other studies should explore OH in different areas and districts across the kingdom. These studies will hopefully contribute to investigating the larger picture of OH in the Saudi educational system.

Furthermore, correlational studies would contribute to an understanding of the existing relationships between school OH and other organizational variables, such as leadership style, work stress, educational efficacy, organizational change, organizational conflict, job satisfaction, organizational commitment, school innovativeness and other factors. These studies are important because they provide a broader understanding of the variables affecting or affected by the OH of a school.

Conflict of interest

The author has not declared any conflict of interest

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