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Transformational Leadership Impact on High Performance Work System and Effective Reporting System: Study on Saudi Hospitals

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Abstract: The study aimed at investigating the impact of transformational leadership on high performance work system and reporting system. Leadership refers to the power of the individual to influence other individuals and to encourage them to develop and achieve common aims. Transformational leadership occurs when leaders act in an attempt to maximize the awareness of their associates of what is right and important to increase their motivational maturity and to move them to see beyond their self-interests for the sake of the group. A questionnaire was used as the instrument of the study and the data collection procedures included self-administered questionnaires and emailed ones. Data collected were analyzed using Statistical Package for Social Sciences (SPSS), for the purposes of descriptive statistics on the demographic characteristics of the subjects and exploratory factor analysis while Partial Least Square (PLS) was used to determine the interactions between the various constructs for ascertaining the various structured equation models. The findings generated from the present study were then reported and detailed discussion about them was presented in the line of the available literature. It is contended that the examination the impact of transformational leadership is more significant than the examination of a direct relationship which is quite obvious.

Key words: Transformational leadership, high performance, reporting system, adverse event, PLS

INTRODUCTION

Leadership refers to the power of the individual to influence other individuals (Tappen *et al*., 2004) and to encourage them to develop and achieve common aims. Transformational leadership occurs when leaders act in an attempt to maximize the awareness of their associates of what is right and important to increase their motivational maturity and to move them to see beyond their self-interests for the sake of the group. Transformational leaders promote their associate's sense of purpose that goes beyond the reward for effort exchange (Bass and Avolio, 1997).

With regards to transformational leaders, Bass and Avolio (1994) attributed them with idealized influence, inspirational motivation, intellectual stimulation and individualized consideration. The earlier attributes enable transformational leaders to drive individuals working for them in a manner that they act long-term self-development as opposed to short-term. This type of leaders, also urges followers to go beyond personal self-interests for the sake of the group, organizational and society as a whole and concentrate on the most critical aspects of their work and life (Bass and Stogdill, 1990).

The focus of transformational leadership lies on the provision of direction, vision and confidence to the follower in order to generate the required change. This type of leadership is deemed to consist of three forms of leadership (Two active and one passive form). The first form, known as the contingent reward is deemed to be an active leadership form. The contingent reward is described by Bass and Stogdill (1990) as one that exchanges rewards for effort, promises reward for good performance and acknowledges accomplishments. In addition, contingent reward is distinct from transformational leadership in terms of its approach but it can be effective in encouraging followers to achieve the aims of the team.

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The seconnd active form, known as management by exception active is defined as the process where the leader oversees and watches out for deviation from rule, processes and expectations and takes the required action to rectify it. It is noteworthy that this form is not a proactive form of leadership but a reactive form where the leader actively identifies deviations. The third form, known as the management by exception is a passive form of management. It is where the leader waits for the follower to perform badly in order to take action. In this management form, leaders steer clear of intervening, taking action or making decisions until or unless, it is the last recourse (Bass and Stogdill, 1990).

Both transformation and transactional forms of leadership have often been distinguished from the laissez-faire form of leadership. Throughout the late 1990's and the beginning of 2000's, researches dedicated to management by exception-passive form which used to be considered as a type of transactional leadership, urged for its combination with laissez-faire leadership. These forms are recommended to be combined as they are highly positively associated with one another and negatively associated with other forms of leadership.

The resulting form of leadership when both the earlier forms are combined was labeled as the passive-avoidant leadership where the contingent reward and management by exception-active comprise the transactional leadership. However, this change did not last as the most current large-scale validation study clarified that the parsing out of management by exception-active and management by exception-passive and one aissez-faire best reflects the entire leadership range (Avolio and Bass, 2004). The changes in the model were ambiguous but it is crucial to understand the changes in the factors employed to define transformational, transactional and passive avoidant/laissez-faire leadership as the scholarly literature from the mid 1990's until recently employed various descriptors apart from what has been used in recent studies.

Reporting of medical error is a crucial requirement of patient safety (Hosford, 2007). Effective reporting systems form the fundamental aspects of the safety environment of the patient as it improves safety needs, promotes error reporting and enhances minimization of errors in the system (Tamuz *et al*., 2004). In this context, a medical error may refer to as an unsuccessful planned action (execution error) or the use of a flawed plan in the quest to achieve an objective (planning error) (Hosford, 2007).

In light of the above discussion, proper reporting systems of medical errors and negative events are the major issues of patient safety. This reporting is crucial to enhance systems in order to minimize incidence (Tamuz *et al*., 2004). The reporting system in health care is the constant reporting of negative events, like incidents happening to patients, near misses and unsafe conditions that are crucial to be defined explicitly and included into robust reporting systems which keep the precise definitions of events under study into consideration (Kinnaman, 2007).

Literature review and hypotheses development

Relationship between transformational leadership and high performance work system: It is argued that the components of HPWS need leaders who are able to convey its concepts and strategies (Kirkman *et al*., 1998). The middle level leaders are requested to translate strategies of the HPWS into actions. For example, they are responsible for planning, designing and carrying out the necessary training programs for the employees working under high performance work system (Gephardt and van Buren, 1996). The middle level leaders are expected to face resistance in delivering HPWS because the employees are usually like a structure that ensures security that comes along from the boss as they either have low growth needs or they do not value autonomy (Kirkman *et al*., 1998). Moreover, Hodgson *et al*. (2007) in a review of improvements in the UK public sector, highlighted the importance of leadership in increasing staff motivation, self-esteem and commitment which are all considered essential components of HPWS.

Despite the strong belief among researchers that many aspects of patient safety are predicted by the performance of the executive leaders, it is difficult to provide evidence for such claim, especially when studies are conducted in isolation from other organizational variables (Jennings *et al*., 2008). Leaders influence employees performance in two ways: first, indirectly through their choice and design of management control systems and practices and second, through their influence on employee behavior via behaviors such as leading by example and recognizing achievements (Boedker *et al*., 2011).

Researchers found that the HPWS through its cross-level hierarchy moderated the relationship between leadership and HR professionals, especially the factor of empowerment (Liao and Lin, 2011). Several explanations offer the basis of further studies and practical uses. For instance, effective leadership was found to be intimately related to safe patient care through the creation of teamwork which is able to provide safe patient care (Manser, 2009). It revealed that four interacting issues pertaining to nursing leaders and managers impacted patient safety. They were empowerment of leaders and managers, increased focus on the patient, exploring conditions for front-line nurses and improving nursing conditions. To explore the full scope of this relationship, the following hypothesis is tested in the current study:

- H_1: transformational leadership is significantly related to and antecedes High Performance Work System (HPWS)

Relationship between transformational leadership and effective reporting system: HROT is based on the premise that errors can be minimized via top leadership commitment and a reliable organizational culture. Contrastingly, the normal accident theory has its basis on the premise that accidents cannot be stopped and they are normal, suggesting that this theory takes a pessimistic approach to minimizing or stopping errors from happening in complex workplace. Based on the HROT, senior leadership behavior and attitudes are related to high levels of reliability. HROs are also believed to have lower error as they are premised on the idea of a safety culture or a reliable culture. Researchers claim that creating system, training and learning redundancy may enhance safety even in the context of complex and strictly connected systems. Leadership and safety culture theories stem from HRO studies are invaluable to hospitals, as they are catered to enhancing PSO (Reason, 2000).

Safety culture is a term that was coined by the International Nuclear Safety Advisory Group following the Chernobyl disaster in 1986. Safety culture refers to the combination of characteristics and attitudes in the organization and individuals which establishes it as a top priority and it receives significant attention (International Atomic Energy Agency). Organizations possessing a strong safety culture attempt to always maintain safety as its top priority. Safety commitment entails the provision of required resources, incentives and rewards for the promotion and enhancement of safety. A dimension of safety culture that stands out in health care studies is related to the perceptions of employees of the general priority allocated to safety within the health care environment. Although, a debate is ongoing regarding the actual components of a PSC in a hospital, six crucial components obtained from HROT have been highlighted, as shown by Singer *et al*. (2003). These components are caring and safety environment that is blame-free, commitment and drive for a safety-centered institution, resources, incentives and rewards provided for the facilitation of commitment, communication, collegiality and openness regarding errors and safety priority.

Effective leadership caters to patient safety concerns to be able to improve system performance and not to blame individuals. In addition, institutions should be committed to upholding a safety-centered organization by providing resources, incentives and rewards. Communicated suggestions are transformed into action and employees are encouraged by their peers to report safety concerns in an environment characterized by openness of errors and issues. The primary priority is patient safety. It is without a doubt that management does not voluntarily compromise patient safety for productivity. The aim of this study is to obtain, the antecedent effect of transformational leadership on both the High Performance Work System (HPWS) and reporting system in Saudi public hospitals.

Reporting and prevention of medical errors demand empowerment and advocacy of nursing leadership (Richardson and Storr, 2010). The demotivating leadership practices in Fiji can be taken as a negative example in this matter. The oppressive leadership practices in Fiji caused less reporting of medical errors in fear of retaliation, thereby resulting in reduction of patient safety (Stewart and Usher, 2010). In Saudi Arabia, Al-Saleh and Ramadan (2012) showed that medical errors in the health care system in Saudi Arabia were caused by heavy workload and lack of education/experience. Yet, worldwide data showed that medical errors can be prevented if there is a free and fair reporting procedure. Their study showed that only 6.9% of the respondents reported that they felt supported by hospital administration when reporting a medical error (Al-Saleh and Ramadan, 2012). Based on earlier discussion, the following hypotheses is formulated:

- H_2: transformational leadership is significantly related to and antecedes effective reporting system of adverse events in hospitals

MATERIALS AND METHODS

Research method: Reports from the Institute of Medicine (IOM) emphasized that leadership is essential to achieving goals related to quality of care and patient safety. The impact of leadership is argued to be applicable to all levels of an organization, including the executive managers to those working directly with patients (Page, 2004). Additionally leadership, through its two-sided engagement between leaders and employees, helps to achieve a common goal (Northouse, 2012). It influences employees behavior while simultaneously influencing their perceptions which ultimately lead to expectations of appropriate conduct that becomes incorporated into the organizational climate (Grojean *et al*., 2004). Within this complex interaction between various factors which affect patient safety, it is crucial for health care providers to consistently report events related to safety of the patients that are expected to empower a hospital's ability to learn from its experience (Tamuz *et al*., 2004). To encourage all staff to identify and report adverse incidents, it is necessary to raise awareness of employees about how to maintain safe environment for patients. In this context, the leaders are expected to play an important role in guiding and encouraging the staff to identify errors and

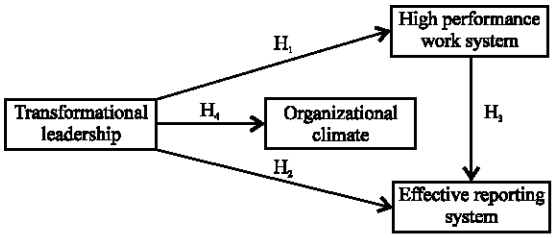

Fig. 1: Research framework

adequately adhere to a transparent reporting system. To ensure success and continuity of this system, it should involve recognition of and rewarding the staff in return for their reporting (Coyle, 2005).

Research framework: Figure 1 presents the overall representation of the theoretical framework that depicts the relationships between leadership, HPWS, organizational climate, effective reporting system and patient safety. Based on the fragmented empirical evidence, the current study suggests a coherent model investigating these relationships in a single model.

Measurements of study variables: The measurement of each study variable is discussed in this study. A total of five main variables were involved including the demographic variables. The responses were made on a 5 point Likert scale as it is the most widely used scale in recent researches. Moreover, it is also able to measure accurately and to test the proposed hypotheses. The respondents were able to choose a neutral rating in case some of them felt neutrally about some topics.

Transformational leadership: The Multi-factor Leadership Questionnaire (MLQ) was developed by Avolio and Bass (1995) where in the latest version (form-5x-short) encapsulates the full leadership range (transformational, transactional and laissez-faire). This scale was adopted in the present research because of its extensive development and validation and because it is deemed to be among the most effective instruments used for the evaluation of leadership styles. The reliability of all items for every leadership factor scale ranged from 0.74-0.94 (Avolio and Bass, 1995) and went over the standard reliability cut off of 0.70 as reported by Fornell and Larcker. A total of 20 items were included to address transformational leadership with each item rated on a 5 point scale, ranging from 1 not at all to 5 frequently, if not always. Transformational leadership items covered inspirational motivation, idealized influence behavior, intellectual stimulation, individual consideration and attributes of idealized influence. Participants were asked to indicate how frequently each statement fits them.

Measurement items of transformational leadership (Avolio and Bass, 1995):

- Re-examines critical assumptions to question whether they are appropriate
- Talks about his/her most important values and beliefs
- Seeks differing perspectives when solving problems
- Talks optimistically about the future
- Instills pride in me for being associated with him/her
- Talks enthusiastically about what needs to be accomplished
- Specifies the importance of having a strong sense of purpose
- Spends time teaching and coaching
- Goes beyond self-interest for the good of the group
- Treats me as an individual rather than a member of a group
- Acts in ways that builds my respect
- Considers the moral and ethical consequences of decisions
- Displays a sense of power and confidence
- Articulates a compelling vision of the future
- Considers me as having different needs, abilities and aspirations from others
- Gets me to look at problems from many different angles
- Helps me to develop my strengths
- Suggests new ways of looking at how to complete assignments
- Emphasizes the importance of having a collective sense of mission
- Expresses confidence that goals will be achieved

Effective reporting system: Assessment of effective reporting system was conducted by using nine items developed by Walston *et al.* (2010). The items were found to possess high coefficient alpha reliability estimates at 0.86 (Walston *et al.*, 2010). The items were measured on a 5 point Likert scale, ranging from 1 strongly disagree to 5 strongly agree. Participants were asked to indicate their level of agreement or disagreement on the items.

Measurement items of effective reporting system (Walston *et al.*, 2010):

- Reporting is not structured to punish
- Reporting errors lead to positive change
- Medical professions believe in the importance of reporting errors
- Nurses believe in the importance of reporting near-misses
- Information from reported errors is used to improve safety
- Nurses are required to report errors event/incident occurs in this hospital

- This hospital has a rewarding system for reporting errors
- Nurses are encouraged to report events/incidents related to harming patient safety
- Reporting system procedures are clear to nurses

The 7 item scale developed by Burton *et al.* (2004) was shown by previous studies to be of high reliability as it was reported to have a coefficient of 0.82 in the study conducted by Ngo *et al.* (2009). The scale takes a generalized approach to climate and tries to capture various aspects of employee's perceptions about their organizations including trust, morale, rewards equitability, leader credibility, conflict, scapegoating and resistance to change. The current study adopted these items measured on a 5 point Likert scale, ranging from 1 strongly disagree to 5 strongly agree. Participants were asked to indicate the level of agreement or disagreement to the items. Of all items, two were negatively worded. They were with regards to conflict, there are large disagreements among nurses while hospital management makes decision and with respect to resistance to change, it is often difficult to carry out organizational changes.

Measurement items of organizational climate Burton *et al.*, 2004):

- Trust: the employees can always trust each other
- Morale: the employees have a high working morale
- Rewards equitability: the employees find that rewards for their efforts are given in an equitable fashion
- Leader credibility: employees consider leadership to be credible
- Conflict: there are large disagreements among employees while we make decisions
- Scapegoating: it is good sense that employees take responsibility when something goes wrong
- Resistance to change: it is often difficult to carry out organizational changes

Reliability analysis: Reliability refers to the measure of the stability level among the construct measurements. In order to evaluate the consistency of the items measuring the construct, the reliability analysis of the instrument was carried out. According to Sekaran (2003), four methods are generally utilized by researchers to ensure the reliability of their instruments. They are test-retest, alternative form, split-half and the Cronbach's alpha Coefficient Method, the latter of which is the most extensively used. Accordingly, the present study employed the Cronbach's alpha coefficient to test the instruments reliability.

An alpha coefficient shows the items stability in measuring the same construct. A high coefficient indicates high consistency of the construct items. In an effort to determine the suitable and standard cut off point of Cronbach's alpha coefficient, for instance coefficients of 0.7, 0.8 and 0.9 are for exploratory, basic and critical issue-based researches, respectively. Similarly, a rule of thumb with 0.9 coefficient as excellent, 0.8-0.9 as good, 0.7-0.8 as acceptable, 0.6-0.7 as questionable and 0.5-0.6 poor. Finally, coefficient of <0.5 is deemed unacceptable.

Table 1: Reliability analysis of pilot study

Constructs	No. of original items	Cronbach's alpha	Item deleted*	Cronbach's alpha if item deleted
Recruitment/Hiring	3	0.857	Nil	0.857
Training	3	0.943	Nil	0.943
Performance appraisal	3	0.752	Nil	0.752
Job security	3	0.852	Nil	0.852
Idealized influence (attribute)	3	0.869	Nil	0.869
Participation	4	0.811	Nil	0.811
Idealized influence (behavior)	4	0.831	Nil	0.831
Inspirational motivation	4	0.892	Nil	0.892
Intellectual stimulation	4	0.846	Nil	0.846
Individualized consideration	4	0.806	Nil	0.806
Organizational climate	7	0.864	1	0.878
Effective reporting system	9	0.905	1	0.930

*No. of items sequenced in the questionnaire

The reliability of the intended measures was tested using Cronbach's alpha analysis for each separate construct. To maximize the reliability coefficient, some items were deleted as discussed before. The items were deleted based on the item-construct analysis to assist in determining the ones with the most minimal contribution. Table 1 shows the result.

Table 1 shows that the Cronbach's alpha coefficients of all the study constructs had an acceptable level of internal consistency. Most of the values went over the threshold of 0.70. Hair argued for 0.60 to be the minimum acceptable level of Cronbach's alpha for construct reliability. Five items were deleted to enhance the internal consistency of the perceptions of patient safety, one item was deleted to enhance effective reporting system and finally, one construct was deleted to enhance the organizational climate construct.

Goodness of fit of the model: Unlike the Covariance Based Structural Equation Modeling (CBSEM) approach, PLS Structural Equation Modeling has only one measure of goodness of fit. A Global Fit measure for PLS path modeling is the geometric mean of the average communality and average R^2 for the endogenous constructs. Therefore, the goodness of fit measure accounts for the variance extracted by both outer and inner models. To support the validity of the PLS Model, GoF value was estimated according to the guidelines set up by Wetzels as given in the following equation:

$$GoF = \sqrt{\left(\overline{R^2} \times \overline{AVE}\right)}$$

RESULTS AND DISCUSSION

Descriptive statistics analysis: To get a summary of the data, a descriptive analysis on all constructs was run. Table 2 shows the result. All constructs had mean values ranging from 2.598-3.983 and standard deviation from 0.652-0.378.

Restatement of the hypotheses: Based on Fig. 2, two hypotheses were restated as listed:

- H_3: high Performance Work System (HPWS) significantly affects effective reporting system
- H_4: transformational leadership significantly affects organizational climate

Testing the measurement model: Before, testing the hypotheses of the study, the measurement or outer model was assessed, first using Partial Least Squares Structural Equation Modeling (PLS-SEM). Two steps were followed to know the model's goodness of fit.

Firstly, construct validity which include factor loadings, composite reliability, Cronbach's alpha and convergence validity was ascertained. Secondly, discriminant validity that includes criterion was determined. Figure 3 shows the model with its structural dimensions.

Table 2: Descriptive statistics of the constructs (n = 217)

Constructs	Minimum	Maximum	Mean	SD
Recruitment/Hiring	1	5	3.656	1.295
Training	1	5	3.983	1.155
Performance appraisal	1	5	3.922	0.892
Job security	1	5	2.691	1.378
Idealized influence (attribute)	1	5	3.204	0.942
Participation	1	5	3.163	0.835
Idealized influence (behavior)	1	5	3.361	0.915
Inspirational motivation	1	5	3.470	0.820
Intellectual stimulation	1	5	3.592	0.908
Individualized consideration	1	5	3.607	0.828
Effective reporting system	1	5	3.743	0.812
Organizational climate	1	5	3.115	0.699

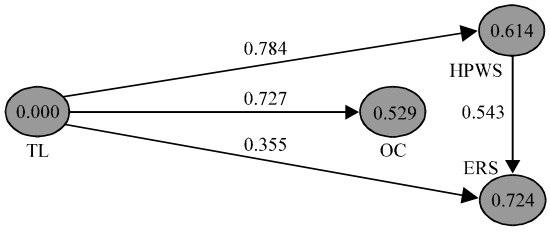

Fig. 2: Path coffecient

Goodness of Fit (GoF) of the model: To support the validity of the PLS Model, GoF value was estimated according to the using the equation, the GoF value was 0.670 obtained by:

$$GoF = \sqrt{\left(\overline{R^2} \times \overline{AVE}\right)}$$

A comparison was made with the baseline values of GoF (small = 0.1, medium = 0.25, large = 0.36). Table 3 shows that the model's goodness of fit measure was large, indicating an adequate level of global PLS Model validity.

Establishing first order constructs: Before examining the theoretical and conceptual aspects of the second order constructs in the model, the differences between the first and second order measurement models as discussed.

As illustrated in Fig. 4, Effective Reporting System (ERS) as a latent construct was measured by a set of measured variables, namely; REP1 through REP9 and one question was deleted since its loading was <0.5. As

Table 3: Goodness of fit of the model

Constructs	R^2	AVE
Performance appraisal	-	0.711
Effective reporting system	0.720	0.699
High performance work system	0.590	0.513
Individualized consideration	-	0.673
Idealized influence (attribute)	-	0.714
Idealized influence (behavior)	-	0.700
Inspirational motivation	-	0.793
Intellectual stimulation	-	0.751
Job security	-	0.931
Organizational climate	0.516	0.605
Participation	-	0.751
Recruitment/hiring	-	0.824
Training	-	0.917
Average	0.609	0.737
Goodness of Fit (GoF)	-	0.670

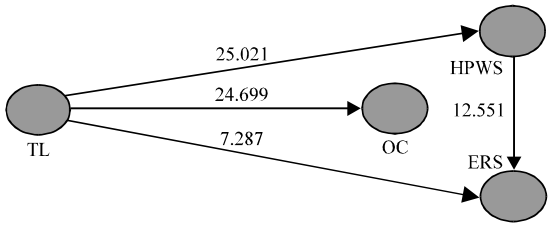

Fig. 3: The t-value with its structural dimensions

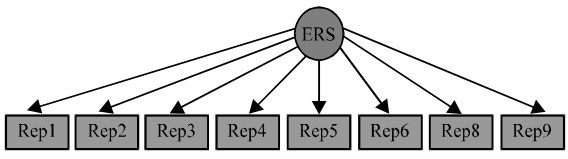

Fig. 4: The first order measurement model of Effective Reporting System (ERS)

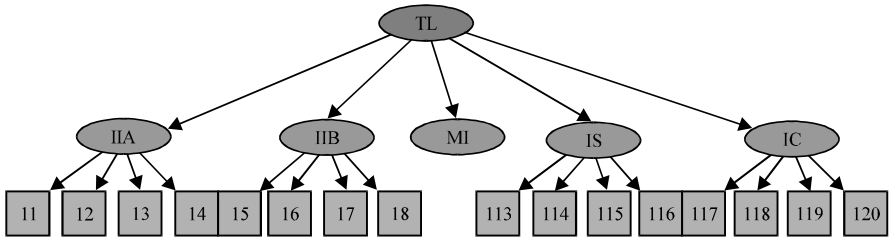

Fig. 5: The second order measurement model of Transformational Leadership (TL)

Table 4: The second order constructs analysis

Variables	Dimensions	Loading	SE	T	p-values	R^2
High performance work system	Performance appraisal	0.819	0.024	33.841	0.000	0.671
	Job security	0.507	0.043	11.709	0.000	0.257
	Participation	0.806	0.026	30.698	0.000	0.650
	Recruitment/Hiring	0.695	0.046	15.190	0.000	0.483
	Training	0.876	0.012	73.189	0.000	0.767
Transformational leadership	Individualized consideration	0.932	0.014	65.907	0.000	0.869
	Idealized influence (attribute)	0.856	0.014	60.765	0.000	0.733
	Idealized influence (behavior)	0.950	0.007	144.891	0.000	0.902
	Inspirational motivation	0.943	0.010	93.251	0.000	0.890
	Intellectual stimulation	0.933	0.010	97.641	0.000	0.870

illustrated in Fig. 5, Transformational Leadership (TL) construct was measured indirectly by 20 items through other layer of latent constructs. Therefore, TL is called a seconnd order measurement model. This study has two layers of latent variables, namely; second order factor structure such as Transformational Leadership (TL) and High Performance Work System (HPWS) as they caused multiple first order latent factors.

Establishing the second order constructs: Before proceeding to test the research model, specific procedures were taken to examine whether the first order constructs were qualified to be conceptually explained by the respective second order construct. To do, the first order constructs have to be explained well by the hypothesized second order construct and they have to be distinct (Byrne, 2010).

With regards to Transformational Leadership (TL) construct, the five first order constructs, namely; Individualized Consideration (IC), Idealized Influence Attribute (IIA), Idealized Influence Behavior (IIB), Inspirational Motivation (IM) and Intellectual Stimulation (IS) were explained well by the TL construct since the R^2 ranged from 0.733-0.902 as illustrated in Table 4. In addition to that these constructs were confirmed to be distinct using the criteria.

Similarly, the High Performance Work System (HPWS) construct was hypothesized to be measured by the five first order constructs, namely; performance appraisal, job security, participation, recruitment/hiring and training. These constructs were explained well the High Performance Work System (HPWS) construct as showed by R^2 which ranged from 0.257-0.767.

Transformational leadership and high performance work system: Result presented in previous study found support for the 1st hypothesis. The result means that transformational leadership was observed to be a significant determinant of high performance work system in Saudi hospitals. The finding is in line with previous studies. Evidence from previous research indicated that transformational leadership remains a significant predictor of follower motivation, satisfaction and perceptions of leader effectiveness even when statistically controlled for possible confounding behaviors of leadership. This notion is supported by the findings of observational and experimental research conducted across various situations and settings which showed that transformational leadership predicted follower performance and attitude.

The positive relationship between transformational leadership and HPWS could be viewed and understood from various aspects. Firstly, transformational leadership denotes comprehensive and integrated leadership capacities to produce transformation which could lead marked change in organization systems (Hacker and Roberts, 2003). In the context of heath care, the transformation involves a shift in management approach from traditional HR to HPWS (Behrens, 2008). Secondly, HPWS emphasizes a system of management practices that provide employees with skills, information, motivation and latitude and empower employees to act effectively (Delery and Shaw, 2001). For such practices to be realized, a transformational leaders is needed as such leader is able to influence their followers to act beyond their expectations and the exchange agreement. Also as a

transformational leader is as the one who owns consciousness within himself and able to raise consciousness in others (Hacker and Roberts, 2003), he/she is capable of instilling pride and faith in the followers, motivating them, inspiring them to have an optimistic attitude and stimulating them to be creative and innovative as well as develop problem-solving techniques (Bass and Avolio, 1995) consistent with transformational leadership theory (Bass, 1985). In transformational leadership theory, a transformational leader is one who is capable of intellectually stimulating the followers to identify problems and seek for solutions. In the context of health care, this means that such a leader gives autonomy to bnrses to challenge conventional methods and question the status quo toward ensuring patient safety (Bass and Avolio, 1993).

Transformational leadership and effective reporting system: In addition to the positive role transformational leadership has on HPWS, the result also indicates that such leadership is important in developing an effective reporting system at Saudi public hospitals. This result is in accordance with that found by Tuttle *et al.* (2004). When health care workers trust that their leader not punish them for reporting adverse occurrences, they will be more encouraged to do so. Weber and Joshi (2000), also asserted that leadership is one of critical success factors of effective reporting system. The same conclusion was reached by Vogus and Sutcliffe (2007) who observed that trust in leadership perceived by registered nurses was essential in amplifying reporting of medical errors and use of care pathways. Similar result was also reported by Stewart and Usher (2010), in their empirical study in Fiji where it was found that oppressive leadership practices caused less reporting of medical errors due to fear from reprisals thereby resulting in reduction of patient safety.

Transformational theory postulates that the relationship between a transformational leaders and followers depends on trust (Bass, 1985). Trust is considered the key element for employee to report errors and hazardous incidents without fear of punishment. In this respect, Bass and Avolio (1995) urged the crucial need to develop trust. Because the intellectual dimension of transformational leadership empowers health care workers to detect adverse events and report them, the employees are more likely to develop trust with the leader.

High performance work system and effective reporting system: We found a positive and significant relationship between high performance work and effective reporting system. This means that the effectiveness of reporting system was determined by high performance work system. Only a few studies linked HPWS with reporting system and they were mostly in the industrial field. Organizational improvement, since these types of organizations are mostly decentralized and tend to push decisions down to the lowest level in order to bring about a quick decision. In the health care setting, studies by Larson *et al.* (2000) and Preuss (2003) are among the limited few. In their study of registered nurses and nursing assistants in fifty acute-care hospital units in the US to examine the relationship between high performance work system and several outcomes, one of which was quality of information.

Larson *et al.* (2000) found that the high performance work system was linked to the quality of information, measured as the inverse of medication error incidence. They asserted that employees with a system that enables them to use their skills during even seemingly routine tasks improves the effective quality of information, they bring to decision-making and thereby promotes high performance quality. Donabedian theory postulates a relationship between rules and reporting system with rules being developed and implemented by the human resource department. These rules in addition to logistics are essential for health care professionals to abide by especially with regards to reporting.

CONCLUSION

The transformational leadership determined positively HPWS and these two variables had a direct significant impact on organizational climate, effective reporting system and patient safety. In this study, possible organizational factors affecting patient safety in public hospitals in Saudi Arabia have been raised. To date, the current study is one of the very few studies conducted in the Arab world to examine such relationships. Hence, this study is an attempt to add to the existing knowledge by examining the mediating effect of organizational climate on the relationship between high performance work system and outcome (represented by patient safety). The current study, also has considered the antecedent effect of transformational leadership on HPWS and reporting system. In the following sub-studies, contributions of this study are elaborated.

SUGGESTIONS

The main aim of the current study is to examine the role of transformational leadership High Performance Work System (HPWS), effective reporting system and

organizational climate in determining patient safety. In particular, the present study hypothesized that transformational leadership acts as an antecedent of HPWS while organizational climate mediates the relationship between HPWS and patient safety.

The main motivation for this study stems from the paucity of research works on the factors influencing patient safety in the Saudi public hospitals due to the escalating incidence of adverse events worldwide and in Saudi Arabia, despite the fact that most of these adverse events are preventable (World Health Organization, 2009). Moreover, there is a considerable shift in the administrative approach in the public hospitals in Saudi Arabia from the traditional HR system to HPWS which calls for a study to be conducted to look into the effectiveness of the new system and approach.

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