EFFECTS OF SHARED LEADERSHIP ON TEAM EFFECTIVENESS IN THE HEALTHCARE INDUSTRY

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Abstract

The purpose of this study is to examine the extent to which shared leadership functions, as observed in nurse teams, affect cohesiveness among members, job stress, team output and satisfaction. Based on data obtained from 800 nurses, representing 223 teams working in 10 Thai hospitals, structural equation modeling is used to examine these relationships. The result reveals that shared leadership enhances group cohesiveness and leads to an increase in team effectiveness. On the other hand, the consequential increase in job demand under shared leadership setting does not appear to give rise to job stress.

KEY WORDS: Shared leadership, job stress, group cohesiveness, and team effectiveness
INTRODUCTION

Many Asian companies are faced with business challenges brought about by disruptive and rapid change spurred on by uneven growth and uncertain business environment. Many laggard companies are found to lack organization with the skills and knowledge to respond to the change in business complexities and uncertainties. On the other hand, progressive organizations have begun to respond to these changes by becoming more nimble – shifting their central power to a localized and distributed structure to foster greater sharing of leadership and responsibilities among teams to better respond to and cope with these challenges. Such shift is consistent with the emerging theory of shared leadership – that the single leadership theory is outmoded and has many shortfalls in an environment that is undergoing disruptive and rapid change. Therefore, this development for shared leadership capacity in Asian management could better enhance organization survival and success. It empowers people in organization to manage themselves and their teams to respond and adapt to complex change. Such team empowerment is observed to assume both formal and informal leadership roles.

In establishing such shift and structure, these organizations will have to take into consideration of the associated challenges – where leadership is distributive and shared, team dynamics such as peer influence and peer pressure would create more job demand among team members. As job scope expands and becomes ambiguous under shared leadership settings, an individual within the team would be challenged and experiences stress, consequently affecting team.

The goal of this study is to investigate such organization phenomenon that embraces shared leadership in the team structure. Healthcare industry provides a setting in which to study this phenomenon. The nursing work environment is team-based (work in team formed through roster and therefore not necessarily same team members all the time), patient-centric (primary focus on patient care but in-patient period is typically short), case-dependent (nurses are required to know the patient case), high stress situations (sometimes have to deal with crisis, especially in emergency ward).

The study incorporates the approaches of shared leadership, how it could affect group cohesiveness and individual job stress, which in turn, affecting team. It is a detailed examination and modeling of the effect of shared leadership on intermediated outcome, group cohesiveness and job stress, and consequently on team effectiveness. Although many studies have pointed towards the
positive aspects of shared leadership as an organizational cure, the inter-relationship and interplay of these parameters have been less well understood and explored such as the implications of job stress that might arise, under the shared leadership setting, due to higher demand for integration, and peer influence. The following sections, I will describe the concept of shared leadership, followed by the identification of mediating factors in the model, test the model using survey data collected from nurse teams and conclude with discussion on the implications of my findings for future research.

The concept and theoretical development of shared leadership

Early study of leadership mainly focus on behaviors of the appointed leader of the group (Bass, 1990), but later Yukl (1998) introduce a different perspective of leadership by focusing the importance of context and emphasizing a distributed form of leadership. According to Gronn (2002), leadership paradigm can be viewed in two aspects: focused and distributed. First, the dominant paradigm reflects assumptions embedded in “transactional” perspectives on leadership, focusing individual as a leader, leading through interpersonal influence over consideration of followers. The transition paradigm shifts toward visionary, charismatic and inspirational leadership, where inspiration and motivation are source of influence that inspired the followers (Avery, 2004). However, visionary, charismatic and transformational leadership paradigm still focused on single leader. Much of the leadership literature has been devoted to these approaches and has investigated individual leadership traits, and behaviors and transformation as their primarily focus (Bass, 1990).

Second, emerging paradigm presumes that leadership is distributed among members in the team, termed in various ways, e.g., distributed (Gronn, 2002), collaborative (Wallace, 2002), diverse (Bennet, Wise, Woods & Harvey, 2003), organic (Avery, 2004), shared (Pearce & Conger, 2003), collective (Hiller, Day & Vance, 2006; Friedrich, Vessey, Schuelke, Ruark & Mumford, 2009).

The key assumption of shared leadership from social exchange theory describing leader position in the organization can be distributed to all organizational members and that every member in the organization can be a leader in different circumstances (Harris, 2006). Where the functions of leadership are shared, team members are also the source of collaboration and influence (Wood & Fields, 2007). Important components essential to form shared leadership team in the extent literature are (i) collective form of leadership (Pearce & Conger, 2003), and (ii) peer as agent of distributed
influence among one another (Pearce & Conger, 2003), and (iii) shared vision that place common value among in members (Avery, 2004).

*Collective form of leadership.* Recent studies have emphasized on the distinction of understanding leader of the team relative to leaders in the team. Concept of shared leadership looks beyond single actor, but describes that those leadership can be shared across the structure of team depending on situation and context. Shared leadership offers a concept of new practice at team level, where behaviors are enacted by multiple individuals rather than by those in formal leadership roles (Bligh et al., 2006) In addition, sense of empowerment for multiple individual leading the team is necessary to help individual experience sense of shared leadership within team (Spooner, Keenan & Card, 1997).

*Peers as agents of influence.* Shared leadership is an influence process, which may frequently include peer influence in addition to upward and downward hierarchical influence (Pearce & Conger, 2003). Although vertical leaders continues to play a significant role in developing and maintaining the teams, the important difference of shared leadership lies in the agent of influence, which are often the peers. Pearce and Conger (2003) describe lateral influence among peers would typify the experience of leadership under conditional of shared leadership. Zaccaro et al. (2001) in his study also notes that previous theories of leadership tend to minimize the contributing influences of peers. Such minimization could lead to a reduction of our understanding of collective decision-making behavior of a group. Given this, there will be a limit of understanding on the contribution of members within the team formation.

*Shared vision.* A common vision among team and set of values are essential in maintaining group striving for shared leadership (Avery, 2004). Shared vision is intent of the member, within the team to generate a clear organizational purpose and promote necessary changes in the organization so that team can achieve its desired future outcomes. Collective form of leadership and peer influence alone are not sufficient to hold shared leadership team to emerge over time. Shared leadership team requires guiding principle, a shared vision derived from team members, to uphold and sustain the friction from collective from of leadership and peers pressure.
Shared leadership is described as “a dynamic, interactive influence process among individuals in groups for which the objective is to lead one another to the achievement of the group or organizational goals or both”. This influence process often involves peer or lateral influence and at other times involves upward or downward hierarchical influence” (Pearce & Conger, 2003: 286). Friedrich et al., (2009) describes collective leadership as a dynamic leadership process in which a defined leader or leaders selectively utilize skills and expertise within a network and effectively distributed leadership roles as the situation or problem at hand required. In this paper, the definition of shared leadership would refer to a team property whereby leadership is distributed and peers create lateral influence among team member with the objectives to enact team behaviors to achieve team’s common goal.

Organizational context and healthcare setting

Organization context, that exhibits task complexity, multiple exchange relationships among members would find the good use of shared leadership such as, nurse team (Spooner et al, 1997), new product development team (Cox, Pearce & Perry, 2003), cross functional team, creative business team (Politis, 2005). Organization context, in which, works exhibit (i) task interdependence, (ii) task complexity and creativity, and operates under (iii) environment uncertainty can therefore subscribe to the use of shared leadership (Gladstein, 1984; Pearce, 2004).

Task interdependence. It is the degrees to which goal accomplishment depends on one another to accomplish the task and level on interdependence varies as work require multiple tasks with different skill sets (Campion et al, 1993). Pearce (2004) concludes that the more interdependent the task, the greater the need for shared leadership. Previous studies reveal that team outperforms individuals on task involving greater integration and interconnectedness (Lateen et al., 1979). Liden et al. (1979) find task interdependence moderates the relationship between group that are empowered with decision-making and team performance. Therefore, under higher task interdependence work environment, shared leadership setting is more appropriated team setting that has higher affect on team performance (Bligh et al., 2006).

Task complexity and creativity. When task become more complex or demand high creativity, integrated team under shared leadership setting is more appropriated. The more complex the task, it is
unlikely that any one could have skills or capabilities to address all problems (Pearce, 2004). In fast pace business environment, team required skills and knowledge that are more specialized to address many aspects of complex decision. Therefore, shared leadership would be beneficial to this type of organizational context.

*Environment uncertainty.* It defines as a situation in which the team experiences little information about its external environment that is in a state of flux and unpredictability. Under high uncertainty environment, shared leadership would be beneficial. However, team working in a routine known engagement, shared leadership would prove to provide little benefit.

It can therefore be deduced that because shared leadership structure facilitates multiple exchange relationships among members (Liden, 1979), it will be relevant to the context of high task interdependence and uncertainty and prove effective for team faced with high task complexity or high creative task (Gladstein, 1984). Therefore, organization context, healthcare setting, where task interdependence, task complexity and environment uncertainty co-exists would provide an interesting setting to study shared leadership and performance outcome. In the following section, a conceptual framework is described to serve as groundwork for research on shared leadership and its relations to team effectiveness.

**CONCEPTUAL FRAMEWORK**

The study of shared leadership–performance relation is structured around Input-Process-Output (IPO) framework. IPO framework has been used to guide team research for decades, however, substantial studies have focused on the relationship between process and output, and few have investigated relationship among input, process and output (Guzzo & Dickson, 1996, Marks, Mathieu & Zaccaro, 2001). In this study, shared leadership serves as enabler affecting change in group cohesiveness, but also increases high job stress. Team effectiveness would serve as an outcome of this framework, which includes performance outcomes, describing quantity and quality of the work, and attitudinal outcomes, describing individual attitude toward team and peers such as team satisfaction.

In shared leadership setting, peer interaction would increase influence upon one another, potentially leading each to take leadership role in its tasks. Greater empowerment and autonomy inherent to share leadership role within each member would have positive effects on team
performance and satisfaction (Wood & Field, 2007). As shared leadership starts to develop and take shape, inevitably at the same time, high role ambiguity and workload shared within team will increase individual job stress. This could lead to impede team performance. However, shared leadership is also an enabler affecting high level of group cohesiveness. Group cohesiveness serves as mediators helping to synchronize action among members, increasing collaboration process, leading toward team effectiveness. Given these requisite, the interaction of shared leadership, job stress and group cohesiveness will serve directly to shape the condition of team performance. Figure 1 provides a framework displaying the effects of shared leadership, and team effectiveness mediated through job stress and group cohesiveness.

- Insert in figure 1 -

HYPOTHESES

In reviewing the components of the proposed framework, I would describe key elements affecting team effectiveness, includes shared leadership, job stress, group cohesiveness, and then followed by a set of hypotheses relating to specific variables within the model components.

*Shared leadership and team effectiveness.* Shared leadership increases the ability of a team to shared leader roles to a specific member with the needed expertise for a situation. The result of shared leadership my increase group effectiveness and accountability as each increased interdependent and reliance on each others (Colbeck, Campbell, and Bjorklund, 2000). Team effectiveness can be broadly defined into different perspectives in term of attitudinal outcomes and behavior outcomes. Many empirical studies have recently begun to focus beyond formal appointed leadership and emphasize more on relationship between collective forms of leadership and team performance (Carson, Tesluk & Marrone, 2007; Day et al., 2006; Ensley et al.,2006; Friedrich et al.,2009; Mehra et al., 2006; Pearce & Sims 2002). Previous conceptualizations studies have led to conclude direct linkage between shared leadership behaviors and aspects of team performance in various contexts. Politis (2005) concludes that dispersed leadership is positively related with the stimulant dimensions of creativity in work environment. Hiller et al., (2006) also find improvement of supervisory effectiveness in construction industry through collective leadership enactment within teams. Carson et al. (2007) report evidences indicating that shared leadership team demonstrates high level of team performance.
among groups of MBA students. Wood & Field (2007) find that shared leadership with high teamwork encouragement provides better outcomes than those with lower teamwork effort. In their longitudinal study on school improvement, Heck & Hallinger (2009) report significant effects of distributed leadership on change in the schools’ academic capacity and indirect effects on student growth rates in math. These conclusions from empirical studies indicate strong and consistent link between shared leadership and subsequent outcomes, team performance. Therefore, this study predicts a direct linkage between shared leadership and team effectiveness.

**H1**: Shared leadership in team will be positively related to team effectiveness.

**Consequences of shared leadership**

*Job stress as consequence of shared leadership.* In this framework, job stress is an intermediate outcome of shared leadership. Psychologist distinguishes between two forms of stress: chronic stress and acute stress. Acute stress refers to “discrete observable events, which are thought to be threatening because they represent change” (Wheaton 1990:210). Chronic stress refers to “continuous and persistent conditions in the social environment resulting in a problematic level of demand on the individual’s capacity to perform adequately in social role (Wheaton 1990:210). In this paper, Job stress refers to chronic stress, which will refer to psychological response of individual in which individual capability cannot copes with persistent job demand that required by team (Wood & Fields, 2007). Under shared leadership setting, peers assert influence over one other, demanding output. Those members without sufficient abilities to meet role expectation may feel threatening, thus resulting high level of individual job stress. Few empirical studies investigate linkage between shared leadership and job stress (Gross, 1989; Wood & Field 2007). Gross (1989) indicates that over engagement in activities that exceed the abilities of a member, similar to context under shared leadership setting, contributes to job stress. Wood & Field (2007) also find that shared leadership has immediate effects on team member perception of job role conflict and role ambiguity in turn, affecting job stress. High levels of shared leadership are related negatively to job stress. This study predicts a direct linkage between shared leadership and job stress. Previous research has confirmed that job stress significantly reduced performance of work teams (Chen, 2009; Cohen, 1980; Jamal, 1985; Raeda, 2004; Westman & Eden, 1990 Wood & Field, 2007). Cohen (1980) indicates that cadet
with moderate stress performs better than do those with high or low level of stress. In his research on blue-collar workers, Jamal (1985) reports negative linear relationship between stressors and measures of job performance and finds organization commitment to be an important moderator of the stress performance relationship. In a later study of officer-cadets, Westman & Eden (1990) also find high job stress experience associated with substantially lower performance for various tasks. Chen (2009), in his recent study, investigates the relationship between job stress and job performance of police officers and finds officers perceived job stress are caused by tasks and contextual performance and concludes higher job stress leads to lower job performance and vice versa. However, Raeda (2004), in his study on the effect of job-related stress on job performance, reveals that hospital nurse who report moderate level of job stress perform less well than did those who report low or high work stress. The study indicated curvilinear relationship between job stress and job performance. These empirical findings indicate strong and consistent link between job stress and performance. This study predicts a direct linkage between job stress and team performance and also predict that job stress as a key variable that has direct influence and mediate the relationship between shared leadership and team effectiveness.

\( H2a \): Shared leadership will be positively related to job stress

\( H2b \): Job stress will be negatively related to team effectiveness.

\( H2c \): Job stress will mediate negatively to the relationship between shared leadership and team effectiveness.

**Group cohesiveness as consequence of shared leadership.** The emerging leadership function that responds to the rising demand of team-based structure is the ability to motivate the team to connect and bond with one another and to manage the team to perform the task more effectively (Wendt, Euwema, & Emmerik, 2009). Group cohesiveness is the extent to which members are attracted to a team and desire to remain in it (Shaw 1981). It is described as the sum of all forces acting on individuals to remain in the team. Previous research finds amplified empirical evidences on existing relationship between group cohesiveness-performance and suggests strong interaction among leadership, group cohesiveness and performance (Dobbins & Zaccaro, 1986; Jung & Sosik 2002; Jordan et al, 2002; Wendt et al., 2009). Dobbin & Zaccaro (1986) point out that the most salient
characteristics of highly cohesive group are less inter-member friction, higher member trust, and
greater interpersonal coordination. More important, group cohesiveness increases group energy to
devote more on maintenance activities managing co-ordination or conflict of the group, rather than,
spend more on task-related activities, solving problem on task. Day et al. (2006) describe that today
the shift in implication of leadership function should be about ability to manage and understand the
linkage between leadership and team productivity. These empirical findings show the impact of
leadership on group cohesiveness and group cohesiveness is a variable that mediates the relationship
between shared leadership and team performance. Therefore, exploration study of linkage between
leader’s effects on group cohesiveness and later its impact to team effectiveness is crucial part of
leadership study.

\[ H3a: \text{ Shared leadership will be positively related to group cohesiveness.} \]

\[ H3b: \text{ Group cohesiveness will be positively related to team effectiveness.} \]

\[ H3c: \text{ Group cohesiveness will mediate the relationship between shared leadership and team} \]

\[ \text{effectiveness.} \]

**METHODS**

**Participants and data collection**

The survey is administered in 10 major hospitals in Bangkok. The data is collected from 800
full time nurses, comprised into 223 teams. Participant nurse teams are randomly selected from
different departments from each hospital. The response rate of participant is 85%. Size of collected
team sample ranges from four to six with the majority falls around five members from each sample
group. The age of the participant in majority (67%) range between 21 and 35 years old. The majority
(93%) reported having at least bachelor degree education. On average, nurse in the sample has nearly
8 years of nurse experiences. The largest number of team represented in this sample is collected from
medicine department (18%) and surgery department (13%). A self-explanatory questionnaire is
administered. Respondents completed it at the own pace. Survey administrators assisted the
respondents, if there are any inquiries on the questionnaire.

**Variables and measures**
The instrument includes a number of attitudes and team behavior questions related to shared leadership characteristics, job stress, group cohesiveness, job satisfaction and output effectiveness.

*Shared leadership:* Fifty items are used to assess shared leadership. The measure is developed by Rosenbach & Taylor (2005) called “The Leadership Profile” (TLP) to measure leadership behavior. In the context of this study, TLP items has been adapted for collective view of the team by changing “leader” into “Our team” and called TLP-collective Leadership Profile. Collective TLP consists of ten subscales that is hypothesized and grouped into three scales: collective transactional leadership behaviors, collective transformation leadership behaviors, and collective transformational leadership characteristics. TLP-collective Leadership Profile measure has a reported coefficient alpha of 0.7 (Sashkin & Sashkin, 2003).

*Job stress:* Instrument measuring job stress is adapted from job stress scales developed by Parker & Decotiis (1983). The measure used thirteen items to measure job stress along two dimensions, time stress: feelings of being under constant pressure and anxiety; job related feeling of anxiety. Job stress measure has a reported coefficient alpha of 0.71 (Jamal, 1990).

*Group cohesiveness:* Eight items is used to assess group cohesiveness. The measured is adapted from Dionne (2000) group cohesiveness along three dimensions, interpersonal attraction, commitment to the task, and group pride. Group cohesiveness measure has a reported coefficient alpha of 0.91 (Dionne, 2000).

*Team effectiveness:* In this study, team effectiveness is measured along two dimensions, output effectiveness and staff satisfaction. Instrument measuring output effectiveness is developed by Manz and Sims (1987). The measure used five items to measure output effectiveness. Output effectiveness measure has a reported coefficient alpha of 0.85 (Manz & Sims, 1987). Instrument measuring staff satisfaction is developed by Campion, Paper and Medsker (1993). The measure used seven items to measure staff satisfaction. Staff satisfaction measure has a reported coefficient alpha of 0.79 (Campion et al., 1993).

All items in this studies are measured on 5-point Likert scales with anchors from 1 = “strongly disagree” to 5 = “strongly agree”. Since the study investigates at the team level as unit of analysis, data is collected at individual level and group into team level by average to form a scale.
also use items parcels as indicators in the confirmatory factory analytic (CFA) and structural model tests to reduce the number of parameters to be estimated. In addition, team level internal consistencies for all of scales are calculated using the average items response per team as input. A number of demographic and team composition items are included in the questionnaire.

RESULTS

Results of Structural Equation Analysis

To test the causal hypotheses, I use SPSS version 18 to review descriptive statistic and calculate Pearson product moment correlations. I also use AMOS version 7.0 to test relationship of all variables simultaneously because AMOS can calculate the relationship simultaneously and incorporate several measures of underlying constructs. Full Information Maximum Likelihood (FIML) is used to handle missing data in the model. Two model, measurement and structural model are specified in AMOS input. The measurement model defines the relationships between the observed variable and underlying construct and structural model defines the hypothesis relation among constructs.

-Insert Table 1-

Table 1 presents means, standard deviations, correlation analysis, and reliability of the study variables. Results presented in the correlation matrix support some of the hypothesis. As hypothesize, collective shared leadership characteristics are significant and positively correlate with staff satisfaction and output effectiveness, therefore, providing initial support for $H_1$. Collective shared leadership characteristics are significant and positively correlate with time stress but not anxiety; therefore, $H_{2a}$ is partially supported. Time stress is significant and positive correlate with both staff satisfaction and output effectiveness; however, anxiety is not correlated with both staff satisfaction and output effectiveness; therefore, $H_{2b}$ is partially supported.

Finally, collective shared leadership characteristics are significant and positively correlate with cohesiveness dimension: interpersonal attraction, commitment to task and group pride, therefore, providing strong support for $H_{3a}$. Group cohesiveness scales: interpersonal attraction, commitment to task and group pride are also significant and positively correlate with both staff satisfaction and output effectiveness; therefore $H_{3b}$ is strongly supported. All reliability is relatively high > 0.7 except
that of job stress dimension, including time stress and anxiety. The reliability of job stress dimension is 0.67 and 0.59 respectively.

- Insert table 2-

*Confirmatory factor model results.* Table 2 presents standardized factor loadings, standard error, critical ratio and $R^2$ for all variables. The data shows standardized factor loadings for all constructs, which are generally high ranging from 0.77-0.83 and statistically significant. Larger R-squared value indicates reliable indicators of their associated latent factor. Critical ratio operates as a z-statistic ranged from 12.52-20.18. I also report the Goodness of fit index (GFI) and Comparative Fit Index (CFI) to gauge model fit. The guidelines for estimate model fit are as following. GFI and CFI with value less than < .9 is considered indicative of “relatively good fit for the model”. SRMR, a measure of standard root mean square residual, with value of less than <.08 is considered a “good fit”. RMSEA, a measure of root mean squared error of approximation with values less than < .07 is considered a “relatively good fit for the model” (Hair, Black, Babin, Anderson, & Tatham, 2006). I first examine the measurement model with loading of indicator on latent variable shared leadership.

The measurement model is tested by confirmatory factor analysis (CFA) using AMOS 7.0. The CFA results support three scales dimension of shared leadership: Collective Transaction Leadership Behavior, Collective Transformational Leadership Behavior and Collective Transformation Leadership Characteristic model fit. Acceptable model fits are indicated by Goodness of fit statistics. $\chi^2$ (22, N = 223) statistic for CFA model is 33.36, $p>$0.05; GFI = 0.972, CFI = 0.99 and RMR = 0.002

Root mean squared error (RMSEA) = 0.05. The CFA results support job stress model fit: Acceptable model fits are indicated by Goodness of fit statistic. $\chi^2$ (50, N = 223) statistic for CFA model is 66.75, $p>$0.05; GFI = 0.953, CFI = 0.98 and RMR = 0.03 Root mean squared error (RMSEA) = 0.04. The CFA results support three scales dimension of group cohesiveness: interpersonal attraction, commitment to task and group pride model fit. Acceptable model fits are indicated by Goodness of fit statistic. $\chi^2$ (15, N = 223) statistic for CFA model is 13.21, $p>$0.05; GFI = 0.985, CFI = 0.99 and RMR = 0.005 Root mean squared error (RMSEA) = 0.00. The CFA results support Team effectiveness model fit. Acceptable model fits are indicated by Goodness of fit statistic. $\chi^2$ (38, N = 223) statistic
for CFA model is 52.39, p>0.05; GFI = 0.96, CFI = 0.99 and RMR = 0.024 Root mean squared error (RMSEA) = 0.04

-Causal equation model results.

To investigate the influence of shared leadership on team effectiveness and possible mediating role of job stress and group cohesiveness, Structure equation modeling analyses (SEM) are used. The framework represents the full recursive structural equation depicted that hypothesized causal relationships among latent factors. I hypothesize shared leadership to have a direct effect on job stress and group cohesiveness and team effectiveness. In addition, I hypothesize job stress to have direct effect on team effectiveness and mediate the effect of shared leadership on team effectiveness. Finally, I also hypothesize group cohesiveness to have direct effect on team effectiveness and mediate the effect of shared leadership on team effectiveness.

Fit statistic for structural model presented in Table 3 demonstrates a satisfactory fit to the data with $\chi^2$ (63, N=223) statistic is 107.73, GFI = .95 CFI =.99, RMR = .004 and RMSEA = .03.

Figure 2 summarizes the standardized path coefficients and Z-value of the causal model. I examine the path coefficients between the indicator variables and their respective underlying constructs in the hypotheses. In table 4, the structure model (SEM) results show total effect of shared leadership on team effectiveness of .75, direct effect of .44 and indirect effect of .31. Total effect path is significant with p < 0.05, confirming Hypothesis H1.

The path coefficient for shared leadership and job stress is not significant (.06, p> .05). Therefore, shared leadership does not show predicted increase in job stress. The path coefficient for job stress and team effectiveness is also not significant (.02, p>.05). Shared leadership create direct effect of .75 on team effectiveness, but the effect does not mediated by increasing level of job stress among team member. There is no drop in total effect of shared leadership on team effectiveness, which indicates that there is no indirect effect cause by job stress. Therefore, the results reject hypothesis H2a, H2b and H2c.

The total effect path coefficient for shared leadership and group cohesiveness is .89 and significant with p<.05. Therefore, shared leadership shows the predicted increase in group cohesiveness. The total effect path coefficient for cohesiveness and team effectiveness is .35, with
p<.05. Shared leadership creates direct effect (.44) on team effectiveness and the effect mediated by increasing level of group cohesiveness among team member. The increase effect of .31 between shared leadership and team effectiveness indicates indirect effect caused by group cohesiveness. Therefore, the results support hypothesis H₃a, H₃b and H₃c.

Discussion

**Shared leadership and team effectiveness.** I explore the relationship between shared leadership and the result of team performance outcome from nurse team. I find that the effect of shared leadership is directly related to team effectiveness. The model shows that higher levels of shared leadership directly relates to team effectiveness. The hypothesis (H₁) is supported and is consistent with previous research (Carson, Tesluk & Marrone, 2007; Day et al., 2006; Ensley et al., 2006; Friedrich et al., 2009; Mehra et al., 2006; Pearce & Sims 2002) highlighting the significance of using shared leadership as a platform to enhance team performance and team satisfaction.

**Job stress as negative effect of shared leadership.** The hypothesis (H₂a) is the extent to which nurses engaged in shared leadership would cause high level of individual job stress. It is assumed that under shared leadership setting, peer influencing may increase workload and role uncertainty among members, leading to a high level of individual job stress. Contrary to the original hypothesis of this study, it is found that higher level of shared leadership does not create high level of individual job stress. The result does not support my early prediction of the effect of shared leadership on job stress; therefore, hypothesis H₂a is rejected. The results also reject both hypothesis (H₂b) predicting that high level of job stress causes poor team effectiveness and hypothesis (H₂c) predicting that the effect of shared leadership is reduced due to increasing level of high job stress among team member. The effect of job stress on team effectiveness in this study is not consistent with previous research could be explained by the overall effect of shared leadership and the characteristic of the nurse team. It was initially hypothesized that under shared leadership, peer influencing may create high workload and role uncertainty among members and would significantly affect individual job stress and lead to high group stress. However, in this sample, nurses have an average of eight years of experiences working within team. It can be deduced that adequate role definitions have already been implicit and assumed,
so there are no role ambiguity among in members. As a result, job stress may have been either internalized or normalized. In addition, data gathered from nurse working in more subtle situation might not experience work stress. Under a shared leadership setting, the mismatches between expectations and actual job activities may be resolved through increase interaction among peer (Wood & Fields, 2007). The result suggests that the benefits of shared leadership with increased interaction could greatly overcome the pressure or stress caused by peer influence among team members.

**Shared leadership and group cohesiveness.** The hypothesis (H3a) is the extent to which nurse engaged in shared leadership increase strong group bonding among the members. Overall, the model indicates higher level of shared leadership is related positively to group cohesiveness. The effect is strong; therefore, hypothesis H3a is also support. The study tests the effect of group cohesiveness and team effectiveness. The result also supports hypothesis (H3b) predicting that high level of group cohesiveness results in better team effectiveness. The study also tests the mediating effect of group cohesiveness on the relationship between shared leadership and team effectiveness. The result reveals that group cohesiveness acts as a linking agent between shared leadership and team effectiveness. It supports the final hypothesis (H3c) predicting that the effect of shared leadership is increased due to higher level of group cohesiveness among team member. The result of this study shows consistency with previous research demonstrating strong links between group cohesiveness-performance and suggests strong interaction among leadership, group cohesiveness and team performance (Dobbins & Zaccaro, 1986; Jung & Sosik 2002; Jordan et al, 2002; Wendt et al., 2009). Members within highly cohesive team would create higher desires to live up to the expectations of the team, therefore resulting in better team performance. However, with strong group cohesiveness, there is a danger of compromise and decisions driven by team member.

**Future research**

Shared leadership is a promising leadership concept and construct, but it is still at a developmental stage. This study is an initial attempt to define model of intermediated effect of shared leadership on team effectiveness using two mediating variables: job stress and group cohesiveness, however, they are not exhaustive components. Other critical dimensions of mediating variable underlying shared leadership and team effectiveness relationship are worth investigating. The
following are issues for future research on shared leadership that could improve our understanding of
the implication of shared leadership.

First, we need to further studies to determine its relevance and applicability to different
organizational context such as what types of organizational contexts that would be receptive to the use
of share leadership, and facilitate shared leadership formation. Second, since shared leadership is the
study of team approach, various levels of analysis are needed in the research design of team study,
data collection, and analytical techniques. Multilevel analysis on individual perspective and group
perspective could shed further lights in shared leadership and performance model. Third, negative
effect of team dynamics such as role ambiguity and role conflict caused by shared leadership is worth
investigating. In shared leadership setting, increase role ambiguity and role conflict is expected and
team is unable to respond to the expectations of one or more members of the team. Steers (1989)
suggests that job satisfaction is lower in larger teams and cohesiveness and communication diminish
with increased team size. Larger team members may also engage in social loafing. This occurs when
an individual feels that the needed effort will be shared by the team’s member and that he or she can
count on others to take up any necessary slack (Latane et al, 1979). Fourth, the effect of team
composition in shared leadership team. The proper composition of a team with a diverse background
and skill base would lead to an increase in information processing capacity, and thus be more able to
achieve its goals and objectives over team with homogeneous background and skill. Teams composed
of highly similar individual who hold common beliefs and have much the same abilities are likely to
view a task from a single perspective. Such commonality can be productive, but it may also mean the
lack of a critical perspective for looking at certain problems (Dyer 1987). However, strong
homogeneity tends to be more beneficial in situations where team task are relatively simple and
focused. In contrast, team diversity teams to provide better results in situation where team tasks are
complex and highly varied.

Therefore, addressing the issues in future research could improve the model abstraction and
generalization that would help guide practitioners in identifying appropriate factors and determine
environment to promote the team development.

Conclusion
The concept of single leadership theory emphasizing on an individual leading the organization is becoming less applicable in a rapid changing and dynamic environment. Leadership can no longer rely on individual set of traits and behaviors. The emerging view of leadership is leaning towards the model where multiple individuals with diverse set of skills and abilities would act as team of leaders and replace the traditional sole leader (Friedrich et al., 2009). The study indicates that importance of adopting shared leadership, which may challenges and stretch an individual team member in terms of ability and capacity. The result of the study reveals benefit of shared leadership through better group cohesion and high team effectiveness, which out weight any peer pressure caused by shared leadership setting. Therefore, it is worth to encourage team to adopt shared leadership to promote team performance. Furthermore, it is worth investigating the effect of shared leadership in organizational context with different level of high task interdependence, high task complexity, and environment uncertainty. However, it is necessary to explore other side effects such as counter-action arising from the impact of shared leadership on individual psychological effect that is brought about by high job demand on and anxiety of an individual that has yet to align with other team members.
REFERENCES


Shared leadership: Refraining the Hows and Whys of Leadership, Sage, Thousand Oaks, California. 48-76


Table 1: Means, standard deviations and correlation matrix of the study (N = 223 teams)

| Variables                        | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10      | 11      | 12      | 13      | 14      | 15      | 16      | 17      |
|----------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 Capable Management             | .81     |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 2 Reward Equity                  | .72**   | .81     |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 3 Communication Leadership      | .75**   | .72**   | .78     |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 4 Credible Leadership            | .76**   | .62**   | .77**   | .82**   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 5 Care Leadership                | .73**   | .66**   | .79**   | .78**   | .87**   |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 6 Enabling Leadership            | .77**   | .60**   | .78**   | .78**   | .82**   | .83**   |         |         |         |         |         |         |         |         |         |         |         |         |
| 7 Confident Leadership           | .72**   | .63**   | .76**   | .66**   | .80**   | .81**   | .82**   |         |         |         |         |         |         |         |         |         |         |         |
| 8 Follower Center Leadership     | .69**   | .64**   | .72**   | .65**   | .62**   | .69**   | .69**   | .77**   |         |         |         |         |         |         |         |         |         |         |
| 9 Visionary Leadership           | .64**   | .60**   | .68**   | .62**   | .71**   | .69**   | .81**   | .80**   |         |         |         |         |         |         |         |         |         |         |
| 10 Culture building Leadership   | .78**   | .67**   | .79**   | .83**   | .79**   | .83**   | .74**   | .75**   | .73**   | .85**   |         |         |         |         |         |         |         |         |
| 11 Interpersonal Attraction      | .45**   | .41**   | .53**   | .55**   | .57**   | .58**   | .53**   | .43**   | .41**   | .60**   | .76**   |         |         |         |         |         |         |         |
| 12 Commitment to Task            | .57**   | .50**   | .65**   | .60**   | .69**   | .68**   | .65**   | .51**   | .58**   | .67**   | .67**   | .64**   |         |         |         |         |         |         |
| 13 Group Pride                   | .66**   | .51**   | .64**   | .67**   | .69**   | .73**   | .70**   | .57**   | .57**   | .71**   | .66**   | .69**   | .83**   |         |         |         |         |         |
| 14 Time Stress                   | .25**   | .30**   | .31**   | .21**   | .22**   | .24**   | .25**   | .46**   | .41**   | .32**   | .20**   | .29**   | .24**   | .67**   |         |         |         |         |
| 15 Anxiety                       | -.02    | .11     | .08     | .06     | .00     | .02     | .04     | .29**   | .23**   | .12     | .04     | .00     | .05     | .70**   | .59**   |         |         |         |
| 16 Staff Satisfaction            | .59**   | .44**   | .47**   | .56**   | .51**   | .55**   | .51**   | .46**   | .44**   | .47**   | .61**   | .40**   | .18**   | .78**   |         |         |         |         |
| 17 Output Effectiveness          | .51**   | .38**   | .49**   | .62**   | .50**   | .57**   | .46**   | .42**   | .39**   | .58**   | .61**   | .47**   | .53**   | .22**   | .04     | .67**   | .73**   |
| Mean                             | 3.72    | 3.71    | 3.73    | 3.75    | 3.86    | 3.76    | 3.78    | 3.66    | 3.61    | 3.74    | 3.83    | 3.82    | 3.88    | 3.44    | 3.41    | 3.77    | 3.68    |
| Std.                             | .40     | .36     | .32     | .37     | .38     | .39     | .36     | .35     | .36     | .38     | .43     | .41     | .36     | .37     | .45     | .38     |

Note. Diagonal entries are scales reliability. N= 230 teams * p < .05, ** p < 0.01 level.
### Table 2: Measurement Model Results (Second-order)

<table>
<thead>
<tr>
<th>Construct/Indicator</th>
<th>Standardized factor loading</th>
<th>Standard Error (S.E)</th>
<th>Critical Ratio (C.R)</th>
<th>R²</th>
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</thead>
<tbody>
<tr>
<td><strong>Shared Leadership (Second-order)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collective Transaction Leadership Behavior</td>
<td>0.92&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.85</td>
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<td></td>
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<tr>
<td>Collective Transformational Leadership Behavior</td>
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<tr>
<td>Collective Transformation Leadership Characteristic</td>
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<td>17.46</td>
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<td><strong>Collective Transaction Leadership Behavior</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Capable Management</td>
<td>0.92&lt;sup&gt;a&lt;/sup&gt;</td>
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<tr>
<td>Reward Equity</td>
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<td>0.05</td>
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<tr>
<td>Communication Leadership</td>
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<tr>
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<td>0.06</td>
<td>18.73</td>
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<tr>
<td>Care Leadership</td>
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<td><strong>Collective Transformation Leadership Behavior</strong></td>
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<tr>
<td>Confident Leadership</td>
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<td>Follower Center Leadership</td>
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<tr>
<td>Time Stress</td>
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<td>Output Effectiveness</td>
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<td>Staff Satisfaction</td>
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<tr>
<td><strong>Cohesiveness</strong></td>
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<td></td>
</tr>
<tr>
<td>Interpersonal Attraction</td>
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<td>0.54</td>
<td></td>
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</tr>
<tr>
<td>Commitment to Task</td>
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<td>12.90</td>
<td>0.64</td>
</tr>
<tr>
<td>Group Pride</td>
<td>0.88</td>
<td>0.10</td>
<td>12.58</td>
<td>0.77</td>
</tr>
</tbody>
</table>

<sup>a</sup> path for each construct is set to 1 Therefore no S.E. or t value are given * p < .05

### Table 3: Fit of Structural Model
Model | $\chi^2$ | df | P | CMIN/DF | GFI | CFI | RMR | RMSEA
--- | --- | --- | --- | --- | --- | --- | --- | ---
Mediated Model with group cohesiveness and job stress partially mediating the effect of shared leadership and team effectiveness | 107.73 | 63 | .09 | 1.20 | .95 | .99 | .004 | .03

RMSEA root mean squared error of approximation; GFI goodness of fit index; CFI comparative fit index; RMR root mean square residual

**Table 4** Summary of direct, indirect and total effects associated with each variable in the path analysis

<table>
<thead>
<tr>
<th>Explanatory variables</th>
<th>Shared leadership</th>
<th>Group Cohesiveness</th>
<th>Job Stress</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>DE</td>
<td>IE</td>
<td>TE</td>
</tr>
<tr>
<td>Team Effectiveness</td>
<td>.44*</td>
<td>.31</td>
<td>.75*</td>
</tr>
<tr>
<td>Job Stress</td>
<td>.06</td>
<td>-</td>
<td>.06</td>
</tr>
<tr>
<td>Group Cohesiveness</td>
<td>.89**</td>
<td>-</td>
<td>.89**</td>
</tr>
</tbody>
</table>

*p<.05 **p <0.01

**Figure 1**: Relationships, effects of shared leadership on team effectiveness mediated model through job stress and group cohesiveness
Figure 2: Structure equation model of shared leadership and team effectiveness mediated by job stress and group cohesiveness
INTRODUCTION

Many Asian companies are faced with business challenges brought about by disruptive and rapid change spurred on by uneven growth and uncertain business environment. Many laggard companies are found to lack organization with the skills and knowledge to respond to the change in business complexities and uncertainties. On the other hand, progressive organizations have begun to respond to these changes by becoming more nimble – shifting their central power to a localized and distributed structure to foster greater sharing of leadership and responsibilities among teams to better respond to and cope with these challenges. Such shift is consistent with the emerging theory of shared leadership – that the single leadership theory is outmoded and has many shortfalls in an environment that is undergoing disruptive and rapid change. Therefore, this development for shared leadership capacity in Asian management could better enhance organization survival and success. It empowers people in organization to manage themselves and their teams to respond and adapt to complex change. Such team empowerment is observed to assume both formal and informal leadership roles. In establishing such shift and structure, these organizations will have to take into consideration of the associated challenges – where leadership is distributive and shared, team dynamics such as peer influence and peer pressure would create more job demand among team members. As job scope expands and becomes ambiguous under shared leadership settings, an individual within the team would be challenged and experiences stress, consequently affecting team. The goal of this study is to investigate such organization phenomenon that embraces shared leadership in the team structure. Healthcare industry provides a setting in which to study this phenomenon. The nursing work environment is team-based (work in team formed through roster and therefore not necessarily same team members all the time), patient-centric (primary focus on patient care but in-patient period is typically short), case-dependent (nurses are required to know the patient case), high stress situations (sometimes have to deal with crisis, especially in emergency ward). The study incorporates the approaches of shared leadership, how it could affect group cohesiveness and individual job stress, which in turn, affecting team. It is a detailed examination and modeling of the effect of shared leadership on intermediated outcome, group cohesiveness and job stress, and consequently on team effectiveness. Although many studies have pointed towards the positive aspects of shared leadership as an organizational cure, the inter-relationship and interplay of these parameters have been less well understood and explored such as the implications of job stress that might arise, under the shared leadership setting, due to higher demand for integration, and peer influence.
The concept and theoretical development of shared leadership

Early study of leadership mainly focus on behaviors of the appointed leader of the group (Bass, 1990), but later Yukl (1998) introduce a different perspective of leadership by focusing the importance of context and emphasizing a distributed form of leadership. According to Gronn (2002), leadership paradigm can be viewed in two aspects: focused and distributed. First, the dominant paradigm reflects assumptions embedded in “transactional” perspectives on leadership, focusing individual as a leader, leading through interpersonal influence over consideration of followers. The transition paradigm shifts toward visionary, charismatic and inspirational leadership, where inspiration and motivation are source of influence that inspired the followers (Avery, 2004). However, visionary, charismatic and transformational leadership paradigm still focused on single leader. Much of the leadership literature has been devoted to these approaches and has investigated individual leadership traits, and behaviors and transformation as their primarily focus (Bass, 1990). Second, emerging paradigm presumes that leadership is distributed among members in the team, termed in various ways, e.g., distributed (Gronn, 2002), collaborative (Wallace, 2002), diverse (Bennet, Wise, Woods & Harvey, 2003), organic (Avery, 2004), shared (Pearce & Conger, 2003), collective (Hiller, Day & Vance, 2006; Friedrich, Vesssey, Schuelke, Ruark & Mumford, 2009). The key assumption of shared leadership from social exchange theory describing leader position in the organization can be distributed to all organizational members and that every member in the organization can be a leader in different circumstances (Harris, 2006). Where the functions of leadership are shared, team members are also the source of collaboration and influence (Wood & Fields, 2007). Important components essential to form shared leadership team in the extent literature are (i) collective form of leadership (Pearce & Conger, 2003), and (ii) peer as agent of distributed influence among one another (Pearce & Conger, 2003), and (iii) shared vision that place common value among in members (Avery, 2004).

Collective form of leadership. Recent studies have emphasized on the distinction of understanding leader of the team relative to leaders in the team. Concept of shared leadership looks beyond single actor, but describes that those leadership can be shared across the structure of team depending on situation and context. Shared leadership offers a concept of new practice at team level, where behaviors are enacted by multiple individuals rather than by those in formal leadership roles (Bligh et al., 2006) In addition, sense of empowerment for multiple individual leading the team is necessary to help individual experience sense of shared leadership (Spooner, Keenan & Card, 1997).
**Peers as agents of influence.** Shared leadership is an influence process, which may frequently include peer influence in addition to upward and downward hierarchical influence (Pearce & Conger, 2003). Although vertical leaders continue to play a significant role in developing and maintaining the teams, the important difference of shared leadership lies in the agent of influence, which are often the peers. Pearce and Conger (2003) describe lateral influence among peers would typify the experience of leadership under conditional of shared leadership. Zaccaro et al. (2001) in his study also notes that previous theories of leadership tend to minimize the contributing influences of peers. Such minimization could lead to a reduction of our understanding of collective decision-making behavior of a group. Given this, there will be a limit of understanding on the contribution of members within team.

**Shared vision.** A common vision among team and set of values are essential in maintaining group striving for shared leadership (Avery, 2004). Shared vision is intent of the member, within the team to generate a clear organizational purpose and promote necessary changes in the organization so that team can achieve its desired future outcomes. Collective form of leadership and peer influence alone are not sufficient to hold shared leadership team to emerge over time. Shared leadership team requires guiding principle, a shared vision derived from team members, to uphold and sustain the friction from collective from of leadership and peers pressure.

Shared leadership is described as “a dynamic, interactive influence process among individuals in groups for which the objective is to lead one another to the achievement of the group or organizational goals or both”. This influence process often involves peer or lateral influence and at other times involves upward or downward hierarchical influence” (Pearce & Conger, 2003: 286). Friedrich et al., (2009) describes collective leadership as a dynamic leadership process in which a defined leader or leaders selectively utilize skills and expertise within a network and effectively distributed leadership roles as the situation or problem at hand required. In this paper, the definition of shared leadership would refer to a team property whereby leadership is distributed and peers create lateral influence among team member with the objectives to enact team behaviors to achieve goal.

**Organizational context and healthcare setting**

Organization context, that exhibits task complexity, multiple exchange relationships among members would find the good use of shared leadership such as, nurse team (Spooner et al, 1997), new product development team (Cox, Pearce & Perry, 2003), cross functional team, creative business team (Politis, 2005). Organization context, in which, works exhibit (i) task interdependence, (ii) task complexity and creativity, and operates under (iii) environment uncertainty can therefore subscribe to
the use of shared leadership (Gladstein, 1984; Pearce, 2004). Task interdependence. It is the degrees to which goal accomplishment depends on one another to accomplish the task and level on interdependence varies as work require multiple tasks with different skill sets (Campion et al, 1993). Pearce (2004) concludes that the more interdependent the task, the greater the need for shared leadership. Previous studies reveal that team outperforms individuals on task involving greater integration and interconnectedness (Lateen et al., 1979). Liden et al. (1979) find task interdependence moderates the relationship between group that are empowered with decision-making and team performance. Therefore, under higher task interdependence work environment, shared leadership setting is more appropriate team setting that has higher effect on team performance (Bligh et al., 2006). Task complexity and creativity. When task become more complex or demand high creativity, integrated team under shared leadership setting is more appropriate. The more complex the task, it is unlikely that any one could have skills or capabilities to address all problems (Pearce, 2004). In fast pace business environment, team required skills and knowledge that are more specialized to address many aspects of complex decision. Therefore, shared leadership would be beneficial to this type of organizational context. Environment uncertainty. It defines as a situation in which the team experiences little information about its external environment that is in a state of flux and unpredictability. Under high uncertainty environment, shared leadership would be beneficial. However, team working in a routine known engagement, shared leadership would prove to provide little benefit.

It can therefore be deduced that because shared leadership structure facilitates multiple exchange relationships among members (Liden, 1979), it will be relevant to the context of high task interdependence and uncertainty and prove effective for team faced with high task complexity or high creative task (Gladstein, 1984). Therefore, organization context, healthcare setting, where task interdependence, task complexity and environment uncertainty co-exists would provide an interesting setting to study shared leadership and performance outcome. In the following section, a conceptual framework is described to serve as groundwork for research on shared leadership and its relations to team effectiveness.

**CONCEPTUAL FRAMEWORK**

The study of shared leadership–performance relation is structured around Input-Process-Output (IPO) framework. IPO framework has been used to guide team research for decades, however, substantial studies have focused on the relationship between process and output, and few have investigated relationship among input, process and output (Guzzo & Dickson, 1996, Marks, Mathieu
& Zaccaro, 2001). In this study, shared leadership serves as enabler affecting change in group cohesiveness, but also increases high job stress. Team effectiveness would serve as an outcome of this framework, which includes performance outcomes, describing quantity and quality of the work, and attitudinal outcomes, describing individual attitude toward team and peers such as team satisfaction.

In shared leadership setting, peer interaction would increase influence upon one another, potentially leading each to take leadership role in its tasks. Greater empowerment and autonomy inherent to shared leadership role within each member would have positive effects on team performance and satisfaction (Wood & Field, 2007). As shared leadership starts to develop and take shape, inevitably at the same time, high role ambiguity and workload shared within team will increase individual job stress. This could lead to impede team performance. However, shared leadership is also an enabler affecting high level of group cohesiveness. Group cohesiveness serves as mediators helping to synchronize action among members, increasing collaboration process, leading toward team effectiveness. Given these requisite, the interaction of shared leadership, job stress and group cohesiveness will serve directly to shape the condition of team performance. Figure 1 provides a framework displaying the effects of shared leadership, and team effectiveness mediated through job stress and group cohesiveness.

- Insert in figure 1 -

**HYPOTHESES**

In reviewing the components of the proposed framework, I would describe key elements affecting team effectiveness, includes shared leadership, job stress, group cohesiveness, and then followed by a set of hypotheses relating to specific variables within the model components.

*Shared leadership and team effectiveness.* Shared leadership increases the ability of a team to shared leader roles to a specific member with the needed expertise for a situation. The result of shared leadership my increase group effectiveness and accountability as each increased interdependent and reliance on each others (Colbeck, Campbell, and Bjorklund, 2000). Team effectiveness can be broadly defined into different perspectives in term of attitudinal outcomes and behavior outcomes. Many empirical studies have recently begun to focus beyond formal appointed leadership and emphasize more on relationship between collective forms of leadership and team performance (Carson, Tesluk & Marrone, 2007; Day et al., 2006; Ensley et al.,2006; Friedrich et al.,2009; Mehra et al., 2006; Pearce & Sims 2002). Previous conceptualizations studies have led to conclude direct linkage between shared leadership behaviors and aspects of team performance in various contexts. Politis (2005) concludes
that dispersed leadership is positively related with the stimulant dimensions of creativity in work environment. Hiller et al., (2006) also find improvement of supervisory effectiveness in construction industry through collective leadership enactment within teams. Carson et al. (2007) report evidences indicating that shared leadership team demonstrates high level of team performance among groups of MBA students. Wood & Field (2007) find that shared leadership with high teamwork encouragement provides better outcomes than those with lower teamwork effort. In their longitudinal study on school improvement, Heck & Hallinger (2009) report significant effects of distributed leadership on change in the schools’ academic capacity and indirect effects on student growth rates in math. These conclusions from empirical studies indicate strong and consistent link between shared leadership and subsequent outcomes, team performance. Therefore, this study predicts a direct linkage between shared leadership and team effectiveness.

**H1**: Shared leadership in team will be positively related to team effectiveness.

### Consequences of shared leadership

**Job stress as consequence of shared leadership.** In this framework, job stress is an intermediate outcome of shared leadership. Psychologist distinguishes between two forms of stress: chronic stress and acute stress. Acute stress refers to “discrete observable events, which are thought to be threatening because they represent change” (Wheaton 1990:210). Chronic stress refers to “continuous and persistent conditions in the social environment resulting in a problematic level of demand on the individual’s capacity to perform adequately in social role (Wheaton 1990:210). In this paper, Job stress refers to chronic stress, which will refer to psychological response of individual in which individual capability cannot cope with persistent job demand that required by team (Wood & Fields, 2007). Under shared leadership setting, peers assert influence over one another, demanding output. Those members without sufficient abilities to meet role expectation may feel threatening, thus resulting high level of individual job stress. Few empirical studies investigate linkage between shared leadership and job stress (Gross, 1989; Wood & Field 2007). Gross (1989) indicates that over engagement in activities that exceed the abilities of a member, similar to context under shared leadership setting, contributes to job stress. Wood & Field (2007) also find that shared leadership has immediate effects on team member perception of job role conflict and role ambiguity in turn, affecting job stress. High levels of shared leadership are related negatively to job stress. This study predicts a direct linkage between shared leadership and job stress. Previous research has confirmed that job stress significantly reduced performance of work teams (Chen, 2009; Cohen, 1980; Jamal, 1985;
Raeda, 2004; Westman & Eden, 1990 Wood & Field, 2007). Cohen (1980) indicates that cadet with moderate stress performs better than do those with high or low level of stress. In his research on blue-collar workers, Jamal (1985) reports negative linear relationship between stressors and measures of job performance and finds organization commitment to be an important moderator of the stress performance relationship. In a later study of officer-cadets, Westman & Eden (1990) also find high job stress experience associated with substantially lower performance for various tasks. Chen (2009), in his recent study, investigates the relationship between job stress and job performance of police officers and finds officers perceived job stress are caused by tasks and contextual performance and concludes higher job stress leads to lower job performance and vice versa. However, Raeda (2004), in his study on the effect of job-related stress on job performance, reveals that hospital nurse who report moderate level of job stress perform less well than did those who report low or high work stress. The study indicated curvilinear relationship between job stress and job performance. These empirical findings indicate strong and consistent link between job stress and performance. This study predicts a direct linkage between job stress and team performance and also predict that job stress as a key variable that has direct influence and mediate the relationship between shared leadership and team effectiveness.

**H2a:** Shared leadership will be positively related to job stress

**H2b:** Job stress will be negatively related to team effectiveness.

**H2c:** Job stress will mediate negatively to the relationship between Shared leadership and team effectiveness.

*Group cohesiveness as consequence of shared leadership.* The emerging leadership function that responds to the rising demand of team-based structure is the ability to motivate the team to connect and bond with one another and to manage the team to perform the task more effectively (Wendt, Euwema, & Emmerik, 2009). Group cohesiveness is the extent to which members are attracted to a team and desire to remain in it (Shaw 1981). It is described as the sum of all forces acting on individuals to remain in the team. Previous research finds amplified empirical evidences on existing relationship between group cohesiveness-performance and suggests strong interaction among leadership, group cohesiveness and performance (Dobbins & Zaccaro, 1986; Jung & Sosik 2002; Jordan et al, 2002; Wendt et al., 2009). Dobbin & Zaccaro (1986) point out that the most salient characteristics of highly cohesive group are less inter-member friction, higher member trust, and greater interpersonal coordination. More important, group cohesiveness increases group energy to devote more on maintenance activities managing co-ordination or conflict of the group, rather than,
spend more on task-related activities, solving problem on task. Day et al. (2006) describe that today the shift in implication of leadership function should be about ability to manage and understand the linkage between leadership and team productivity. These empirical findings show the impact of leadership on group cohesiveness and group cohesiveness is a variable that mediates the relationship between shared leadership and team performance. Therefore, exploration study of linkage between leader’s effects on group cohesiveness and later its impact to team effectiveness is crucial part of leadership study.

**H3a:** Shared leadership will be positively related to group cohesiveness.

**H3b:** Group cohesiveness will be positively related to team effectiveness.

**H3c:** Group cohesiveness will mediate the relationship between Shared leadership and team effectiveness.

**METHODS**

**Participants and data collection**

The survey is administered in 10 major hospitals in Bangkok. The data is collected from 800 full time nurses, comprised into 223 teams with response rate of 85%. Size of team ranges from 4 to 6. The age of the participant in majority (67%) range between 21 and 35 years old and 93% reported having at least bachelor degree. On average, nurse has nearly 8 years of nurse experiences. The largest number of team represented is collected from medicine dept (18%) and surgery dept (13%).

**Variables and measures**

The instrument includes a number of attitudes and team behavior questions related to shared leadership characteristics, job stress, group cohesiveness, job satisfaction and output effectiveness.

*Shared leadership:* “The Leadership Profile” (TLP) 50-item developed by Rosenbach & Taylor (2005) grouped into three scales: collective transactional leadership behaviors, collective transformation leadership behaviors, and collective transformational leadership characteristics. *Job stress:* “Job stress scales” 13-item developed by Parker & Decotiis (1983) measures along two dimensions, time stress and anxiety. *Group cohesiveness:* “Group cohesiveness scale” 8-item adapted from Dionne (2000) measures three dimensions, interpersonal attraction, commitment to the task, and group pride. *Team effectiveness:* Team effectiveness is measured along two dimensions, output effectiveness 5-item developed by Manz & Sims (1987) and staff satisfaction used 7-item developed by Campion, Paper and Medsker (1993). All items in this studies are measured on 5-point Likert scales with anchors from 1= “strongly disagree” to 5= “strongly agree”. Since the study investigates
at the team level as unit of analysis, data is collected at individual level and group into team level by average to form a scale. I also use items parcels as indicators in the confirmatory factory analytic (CFA) and structural model tests to reduce the number of parameters to be estimated. In addition, team level internal consistencies for all of scales are calculated using the average items response per team as input. A number of demographic and team composition items are included in the questionnaire.

RESULTS

Results of Structural Equation Analysis

To test the causal hypotheses, I use SPSS v.18 to review descriptive statistic and calculate Pearson product moment correlations. I also use AMOS v. 7.0 to test relationship of all variables simultaneously because AMOS can calculate the relationship simultaneously and incorporate several measures of underlying constructs. Full Information Maximum Likelihood (FIML) is used to handle missing data in the model. Two model, measurement and structural model are specified in AMOS input. The measurement model defines the relationships between the observed variable and underlying construct and structural model defines the hypothesis relation among constructs.

Table 1 presents means, standard deviations, correlation analysis, and reliability of the study variables. Results presented in the correlation matrix support some of the hypothesis. As hypothesize, collective shared leadership characteristics are significant and positively correlate with staff satisfaction and output effectiveness, therefore, providing initial support for H1. Collective shared leadership characteristics are significant and positively correlate with time stress but not anxiety; therefore, H2a is partially supported. Time stress is significant and positive correlate with both staff satisfaction and output effectiveness; however, anxiety is not correlated with both staff satisfaction and output effectiveness; therefore, H2b is partially supported.

Finally, collective shared leadership characteristics are significant and positively correlate with cohesiveness dimension: interpersonal attraction, commitment to task and group pride, therefore, providing strong support for H3a. Group cohesiveness scales: interpersonal attraction, commitment to task and group pride are also significant and positively correlate with both staff satisfaction and output effectiveness; therefore H3b is strongly supported. All reliability is relatively high > 0.7 except that of job stress dimension, including time stress and anxiety. The reliability of job stress dimension is 0.67 and 0.59 respectively.

- Insert table 1-

- Insert table 2-
Confirmatory factor model results. Table 2 presents standardized factor loadings, standard error, critical ratio and $R^2$ for all variables. The data shows standardized factor loadings for all constructs, which are generally high ranging from 0.77-0.83 and statistically significant. Larger $R^2$-squared value indicates reliable indicators of their associated latent factor. Critical ratio operates as a z-statistic ranged from 12.52-20.18. I also report the Goodness of fit index (GFI) and Comparative Fit Index (CFI) to gauge model fit. The guidelines for estimate model fit are as following. GFI and CFI with value less than < .9 is considered indicative of “relatively good fit for the model”. SRMR, a measure of standard root mean square residual, with value of less than <.08 is considered a “good fit”. RMSEA, a measure of root mean squared error of approximation with values less than < .07 is considered a “relatively good fit for the model” (Hair, Black, Babin, Anderson, & Tatham, 2006). I first examine the measurement model with loading of indicator on latent variable shared leadership. The measurement model is tested by confirmatory factor analysis (CFA) using AMOS 7.0. The CFA results support three scales dimension of shared leadership: Collective Transaction Leadership Behavior, Collective Transformational Leadership Behavior and Collective Transformation Leadership Characteristic model fit. Acceptable model fits are indicated by Goodness of fit statistics. $\chi^2$ (22, N = 223) statistic for CFA model is 33.36, p>0.05; GFI = 0.972, CFI = 0.99 and RMR = 0.002 Root mean squared error (RMSEA) = 0.05. The CFA results support job stress model fit: Acceptable model fits are indicated by Goodness of fit statistic. $\chi^2$ (50, N = 223) statistic for CFA model is 66.75, p>0.05; GFI = 0.953, CFI = 0.98 and RMR = 0.03 Root mean squared error (RMSEA) = 0.04. The CFA results support three scales dimension of group cohesiveness: interpersonal attraction, commitment to task and group pride model fit. Acceptable model fits are indicated by Goodness of fit statistic. $\chi^2$ (15, N = 223) statistic for CFA model is 13.21, p>0.05; GFI = 0.985, CFI = 0.99 and RMR = 0.005 Root mean squared error (RMSEA) = 0.00. The CFA results support Team effectiveness model fit. Acceptable model fits are indicated by Goodness of fit statistic. $\chi^2$ (38, N = 223) statistic for CFA model is 52.39, p>0.05; GFI = 0.96, CFI = 0.99 and RMR = 0.024 Root mean squared error (RMSEA) = 0.04

Causal equation model results. To investigate the influence of shared leadership on team effectiveness and possible mediating role of job stress and group cohesiveness, Structure equation modeling analyses (SEM) are used. The framework represents the full recursive structural equation depicted that hypothesized causal relationships among latent factors. I hypothesize shared leadership
to have a direct effect on job stress and group cohesiveness and team effectiveness. In addition, I hypothesize job stress to have direct effect on team effectiveness and mediate the effect of shared leadership on team effectiveness. Finally, I also hypothesize group cohesiveness to have direct effect on team effectiveness and mediate the effect of shared leadership on team effectiveness. Fit statistic for structural model presented in Table 3 demonstrates a satisfactory fit to the data with $\chi^2$ (63, N=223) statistic is 107.73, GFI = .95 CFI = .99, RMR = .004 and RMSEA = .03.

Figure 2 summarizes the standardized path coefficients and Z-value of the causal model. I examine the path coefficients between the indicator variables and their respective underlying constructs in the hypotheses. In table 4, the structure model (SEM) results show total effect of shared leadership on team effectiveness of .75, direct effect of .44 and indirect effect of .31. Total effect path is significant with $p < 0.05$, confirming Hypothesis H1. The path coefficient for shared leadership and job stress is not significant (.06, $p > .05$). Therefore, shared leadership does not show predicted increase in job stress. The path coefficient for job stress and team effectiveness is also not significant (.02, $p > .05$). Shared leadership create direct effect of .75 on team effectiveness, but the effect does not mediated by increasing level of job stress among team member. There is no drop in total effect of shared leadership on team effectiveness, which indicates that there is no indirect effect cause by job stress. Therefore, the results reject hypothesis H$_{2a}$, H$_{2b}$ and H$_{2c}$.

The total effect path coefficient for shared leadership and group cohesiveness is .89 and significant with $p < .05$. Therefore, shared leadership shows the predicted increase in group cohesiveness. The total effect path coefficient for cohesiveness and team effectiveness is .35, with $p < .05$. Shared leadership creates direct effect (.44) on team effectiveness and the effect mediated by increasing level of group cohesiveness among team member. The increase effect of .31 between shared leadership and team effectiveness indicates indirect effect caused by group cohesiveness. Therefore, the results support hypothesis H$_{3a}$, H$_{3b}$ and H$_{3c}$.

Discussion

*Shared leadership and team effectiveness.* I explore the relationship between shared leadership and the result of team performance outcome from nurse team. I find that the effect of shared leadership is directly related to team effectiveness. The model shows that higher levels of shared leadership directly relates to team effectiveness. The hypothesis (H$_1$) is supported and is consistent with previous
research highlighting the significance of using shared leadership as a platform to enhance team performance and team satisfaction.

**Job stress as negative effect of shared leadership.** The hypothesis (H$_{2a}$) is the extent to which nurses engaged in shared leadership would cause high level of individual job stress. It is assumed that under shared leadership setting, peer influencing may increase workload and role uncertainty among members, leading to a high level of individual job stress. Contrary to the original hypothesis of this study, it is found that higher level of shared leadership does not create high level of individual job stress. The result does not support my early prediction of the effect of shared leadership on job stress; therefore, hypothesis H$_{2a}$ is rejected. The results also reject both hypothesis (H$_{2b}$) predicting that high level of job stress causes poor team effectiveness and hypothesis (H$_{2c}$) predicting that the effect of shared leadership is reduced due to increasing level of high job stress among team member. The effect of job stress on team effectiveness in this study is not consistent with previous research could be explained by the overall effect of shared leadership and the characteristic of the nurse team. It was initially hypothesized that under shared leadership, peer influencing may create high workload and role uncertainty among members and would significantly affect individual job stress and lead to high group stress. However, in this sample, nurses have an average of eight years of experiences working within team. It can be deduced that adequate role definitions have already been implicit and assumed, so there are no role ambiguity among in members. As a result, job stress may have been either internalized or normalized. In addition, data gathered from nurse working in more subtle situation might not experience work stress. Under a shared leadership setting, the mismatches between expectations and actual job activities may be resolved through increase interaction among peer (Wood & Fields, 2007). The result suggests that the benefits of shared leadership with increased interaction could greatly overcome the pressure or stress caused by peer influence among team members.

**Shared leadership and group cohesiveness.** The hypothesis (H$_{3a}$) is the extent to which nurse engaged in shared leadership increase strong group bonding among the members. Overall, the model indicates higher level of shared leadership is related positively to group cohesiveness. The effect is strong; therefore, hypothesis H$_{3a}$ is also support. The study tests the effect of group cohesiveness and team effectiveness. The result also supports hypothesis (H$_{3b}$) predicting that high level of group cohesiveness results in better team effectiveness. The study also tests the mediating effect of group cohesiveness on the relationship between shared leadership and team effectiveness. The result reveals that group cohesiveness acts as a linking agent between shared leadership and team effectiveness. It
supports the final hypothesis (H3c) predicting that the effect of shared leadership is increased due to higher level of group cohesiveness among team member. The result of this study shows consistency with previous research demonstrating strong links between group cohesiveness-performance and suggests strong interaction among leadership, group cohesiveness and team performance. Members within highly cohesive team would create higher desires to live up to the expectations of the team, therefore resulting in better team performance. However, with strong group cohesiveness, there is a danger of compromise and decisions driven by team member.

Future research

Shared leadership is a promising leadership concept and construct, but it is still at a developmental stage. This study is an initial attempt to define model of intermediated effect of shared leadership on team effectiveness using two mediating variables: job stress and group cohesiveness, however, they are not exhaustive components. Other critical dimensions of mediating variable underlying shared leadership and team effectiveness relationship are worth investigating. The following are issues for future research on shared leadership that could improve our understanding of the implication of shared leadership. First, we need to further studies to determine its relevance and applicability to different organizational context such as what types of organizational contexts that would be receptive to the use of share leadership, and facilitate shared leadership formation. Second, since shared leadership is the study of team approach, various levels of analysis are needed in the research design of team study, data collection, and analytical techniques. Multilevel analysis on individual perspective and group perspective could shed further lights in shared leadership and performance model. Third, negative effect of team dynamics such as role ambiguity and role conflict caused by shared leadership is worth investigating. In shared leadership setting, increase role ambiguity and role conflict is expected and team is unable to respond to the expectations of one or more members of the team. Steers (1989) suggests that job satisfaction is lower in larger teams and cohesiveness and communication diminish with increased team size. Larger team members may also engage in social loafing. This occurs when an individual feels that the needed effort will be shared by the team’s member and that he or she can count on others to take up any necessary slack (Latane et al, 1979). Fourth, the effect of team composition in shared leadership team. The proper composition of a team with a diverse background and skill base would lead to an increase in information processing capacity, and thus be more able to achieve its goals and objectives over team with homogeneous background and skill. Teams composed of highly similar individual who hold common beliefs and
have much the same abilities are likely to view a task from a single perspective. Such commonality can be productive, but it may also mean the lack of a critical perspective for looking at certain problems (Dyer 1987). However, strong homogeneity tends to be more beneficial in situations where team task are relatively simple and focused. In contrast, team diversity teams to provide better results in situation where team tasks are complex and highly varied. Therefore, addressing the issues in future research could improve the model abstraction and generalization that would help guide practitioners in identifying appropriate factors and determine environment to promote the team development.

**Conclusion**

The concept of single leadership theory emphasizing on an individual leading the organization is becoming less applicable in a rapid changing and dynamic environment. Leadership can no longer rely on individual set of traits and behaviors. The emerging view of leadership is leaning towards the model where multiple individuals with diverse set of skills and abilities would act as team of leaders and replace the traditional sole leader (Friedrich et al., 2009). The study indicates that importance of adopting shared leadership, which may challenges and stretch an individual team member in terms of ability and capacity. The result of the study reveals benefit of shared leadership through better group cohesion and high team effectiveness, which out weight any peer pressure caused by shared leadership setting. Therefore, it is worth to encourage team to adopt shared leadership to promote team performance. Furthermore, it is worth investigating the effect of shared leadership in organizational context with different level of high task interdependence, high task complexity, and environment uncertainty. However, it is important to explore other side effects such as counter-action arising from the impact of shared leadership such as individual psychological effect that is brought about by high job demand on and anxiety of an individual that has yet to align with other team members.
REFERENCES


Table 1: Means, standard deviations and correlation matrix of the study (N = 223 teams)

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Note. Diagonal entries are scales reliability. N= 230 teams * p < .05, ** p < 0.01 level.
Table 2 Measurement Model Results (Second-order)

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<tr>
<td>Time Stress</td>
<td>0.78 (^a)</td>
<td></td>
<td></td>
<td>0.63</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0.86</td>
<td>0.09</td>
<td>12.52</td>
<td>0.73</td>
</tr>
<tr>
<td><strong>Team Effectiveness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output Effectiveness</td>
<td></td>
<td></td>
<td></td>
<td>0.65</td>
</tr>
<tr>
<td>Staff Satisfaction</td>
<td></td>
<td></td>
<td></td>
<td>0.68</td>
</tr>
<tr>
<td><strong>Cohesiveness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpersonal Attraction</td>
<td>0.74 (^a)</td>
<td></td>
<td></td>
<td>0.54</td>
</tr>
<tr>
<td>Commitment to Task</td>
<td>0.80</td>
<td>0.10</td>
<td>12.90</td>
<td>0.64</td>
</tr>
<tr>
<td>Group Pride</td>
<td>0.88</td>
<td>0.10</td>
<td>12.58</td>
<td>0.77</td>
</tr>
</tbody>
</table>

\(^a\) path for each construct is set to 1 Therefore no S.E. or t value are given *p < .05

Table 3: Fit of Structural Model

<table>
<thead>
<tr>
<th>Model</th>
<th>(\chi^2)</th>
<th>df</th>
<th>P</th>
<th>CMIN/DF</th>
<th>GFI</th>
<th>CFI</th>
<th>RM R</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mediated Model with group cohesiveness and job stress partially mediating the effect of shared leadership and team effectiveness</td>
<td>107.7</td>
<td>3</td>
<td>.09</td>
<td>1.20</td>
<td>.95</td>
<td>.99</td>
<td>.004</td>
<td>.03</td>
</tr>
</tbody>
</table>

RMSEA root mean squared error of approximation; GFI goodness of fit index; CFI comparative fit index; RMR root mean square residual

Table 4 Summary of direct, indirect and total effects associated with each variable in the path analysis

<table>
<thead>
<tr>
<th>Explanatory variables</th>
<th>Shared leadership</th>
<th>Group Cohesiveness</th>
<th>Job Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DE</td>
<td>IE</td>
<td>TE</td>
</tr>
<tr>
<td>Team Effectiveness</td>
<td>.44*</td>
<td>.31</td>
<td>.75*</td>
</tr>
<tr>
<td>Job Stress</td>
<td>.06</td>
<td>-</td>
<td>.06</td>
</tr>
<tr>
<td>Group Cohesiveness</td>
<td>.89**</td>
<td>-</td>
<td>.89**</td>
</tr>
</tbody>
</table>

*p<.05 **p <0.01
Figure 1: Relationships, effects of shared leadership on team effectiveness mediated model through job stress and group cohesiveness

Figure 2: Structure equation model of shared leadership and team effectiveness mediated by job stress and group cohesiveness