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ARTICLES

Elaboration of Leadership and Culture in High-Performing Nursing Units of Hospitals as Perceived by Staff Nurses

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The leadership–culture phenomenon, a known explanatory construct for organizational performance, is understudied in nursing. Building on our previous work, we further addressed this knowledge gap through explorations of demographics and hospital variables which may have a significant influence on staff nurses' (SNs) perceptions of their nurse managers' (NMs) leadership and nursing unit culture. Furthermore, we explored the extent to which the NMs' leadership predicted specific cultures which typify nursing unit effectiveness. Using dissertation data provided by 278 SNs, we found that SNs educated at the baccalaureate level or higher had favorable perceptions of their nursing unit performance and viewed their NMs' leadership differently than the SNs with diploma or associate degrees. The frequent portrayals of transformational (TFL) leadership behaviors (e.g., visionary) by the NMs were paramount in shaping culture traits which exemplify high performance outcomes. TFL leaders were more likely to shape unit cultures which are flexible and adaptive to the environmental challenges within and outside the nursing unit. Thus, the type of NMs' leadership and unit culture may provide an added value in explaining the performance level in patient care units which consequently affects the overall hospital/organizational outcomes. Implications for research and leadership practices are presented.

Keywords: nurse manager leadership; organizational culture; nursing unit performance; leadership/culture in acute and critical-care units

Over the past three decades, scholars have consistently endorsed the practice of transformational (TFL) leadership as a major factor in achieving organizational effectiveness (Bass & Avolio, 1994). In the business field, high profit margins and return on investments are common metrics employed for evaluating the effectiveness of the organization (Bass & Avolio, 1994). Although health care and nursing administrators implicitly used the term “business” within patient care, routine evaluation of the effectiveness or ineffectiveness of the business performance surrounding the delivery of patient care services is a ubiquitous practice across the health care system (Casida, 2007). Patient satisfaction, cost, hospital length of stay, and quality of care are examples of metrics that are routinely evaluated as indicators for high- or low-performing nursing/patient care units, typically equated with financial gain or loss. Studies have also shown that the outcome of these metrics generally depend on the type of nurse managers’ (NMs’) leadership style and nursing unit/work group culture (Casida & Pinto-Zipp, 2008).

In a work setting, the frequent display of TFL leadership behaviors by leaders with close proximity to the followers (i.e., employees) have been shown to successfully shape, cultivate, and sustain a work group culture which explains the effectiveness of business organizations (Block, 2003). However, despite the fact that leadership and culture have long been recognized as two major explanatory constructs for organizational performance (effective or ineffective) in many business industries (Burke & Litwin, 1992), very little has been published about the application and evaluation of these constructs for the organizational performance outcomes of *health care* industries, specifically as they relate to the patient care units in a hospital (Casida, 2007, 2008).

In recent years, Casida and Pinto-Zipp (2008) were the first to uncover the link between the first-line nursing leadership (i.e., NMs’) role and unit culture in a hospital applying the concepts and empirical data derived from high-performing business industries where leaders and subordinates (employees) had a collective sense of, and their actions aligned with, the mission, vision, and strategic directions of the organization. In their exploratory study, Casida and Pinto-Zipp found that the frequent display of TFL leadership behaviors by the NMs were associated with organizational culture traits which exemplify an effective nursing unit performance. An effective nursing unit performance is characterized by a consistent increase in patient satisfaction ratings and retention of staff nurses (SNs) as well as a decrease in hospital-acquired infections and hospitalization days. Likewise, they found that the transactional leadership behavior of contingency reward was also associated with nursing unit effectiveness. However, the correlations between the transactional leadership and all culture trait variables were relatively weak. The findings were further explained by 38% of the variance between the transactional leadership and culture variables in contrast to 74% of the variance accounted for between TFL leadership and culture variables (Casida & Pinto-Zipp, 2008).

The theory and practice of TFL leadership is not a new concept to the nursing discipline. However, advocating the use of TFL leadership for first-line, patient care unit clinical leaders, such as NMs and advanced practice nurses, is a recent development in nursing practice because this leadership behavior has traditionally been viewed as

a nurse executive competency (Marshall, 2011). Yet, despite the mounting evidence showing the many positive effects of TFL leadership on SNs and patient care and nursing unit outcomes (Casida & Parker, 2011; Cummings et al., 2010), to this date there exists a paucity of empirical data on the work group/organizational culture and performance responsive to the leadership roles of NMs in nursing units of acute care hospitals.

BACKGROUND AND PURPOSE OF THE STUDY

Using the data from a dissertation research that was implemented in 2006–2007 (Casida, 2007), this study was developed to further elaborate the phenomena of the relationship between leadership, culture, and performance at the grassroots level—a patient care/nursing unit—of a health care organization. The original dissertation research studied the assumption that a leader's behavior shapes the type (i.e., traits) of an organization/work group's culture and vice versa (Schein, 2004). To make this assumption explicit in nursing leadership practice, Casida (2007) began to examine the unidirectional connection between leadership and culture from the perspectives of an organizational effectiveness framework widely used by business scholars in understanding and predicting the industries' performance outcomes in the contemporary marketplace (Block, 2003). In business, investigators typically use the conceptual elements derived from the full-range leadership theory (FLT; Antonakis, Avolio, & Sivasubramaniam, 2003) and the Denison organizational culture model (DOCM; Denison, 2005) grounded by Schein's (2004) assumption of the reciprocal relationship between leadership and culture.

The FLT depicts a continuum of leadership behaviors which are highly effective at one end (TFL) and ineffective at the opposite end (*laissez-faire*). Midpoint in the continuum is transactional leadership that can produce either effective or ineffective outcomes depending on the context and type of organization or work group settings (e.g., profit based vs. not for profit). A summary of the TFL and transactional leadership constructs along with key conceptual elements subsumed in each construct is presented in Table 1 (Antonakis et al., 2003). It is important to note that in spite of the numerous studies about the TFL and transactional leadership found in nursing literature, very little has been published about the substantive value of using the key elements in Table 1 to further understand the leadership behaviors of NMs. Previous studies in nursing leadership have focused on nurse executives, but not on the relationships among the key elements of TFL and transactional leadership paradigms, and specific culture traits which describe and explain the effectiveness of nursing units in hospitals (Casida & Pinto-Zipp, 2008).

The DOCM was based on the premise that the culture of an organization has a strong influence on its performance (Denison & Mishra, 1995). The model posits that an effective or high-performing organization is characterized by the existence of four culture traits shaped by the leader of a particular work setting. These traits are referred to as *adaptability*, *mission*, *involvement*, and *consistency*. To achieve organizational effectiveness, each member of a work group implicitly or explicitly acts on these traits when implementing his or her job duties. A work group that strives

TABLE 1. Summary of the Full-Range Leadership Theory

Leadership Dimensions and Key Elements	Definitions
Transformational leadership	The ability to influence others toward achievement of extraordinary goals by changing the followers' beliefs, values, and needs.
Idealized influence (attributed)	The socialized charisma of the leader, where the leader is perceived as being confident and powerful and where the leader is viewed as focusing on higher order ideals and ethics.
Idealized influence (behavior)	The charismatic actions of the leader that are centered on values, beliefs, and a sense of mission.
Inspirational motivation	The ways leaders energize their followers by viewing the future with optimism, stressing ambitious goals, projecting an idealized vision, and communicating to followers that vision is achievable.
Intellectual stimulation	The leader actions that appeal to followers' sense of logic and analysis by challenging followers to think creatively and find solutions to difficult problems.
Individualized consideration	The leader behavior that contributes to followers' satisfaction by advising, supporting, and paying attention to the individual needs of followers, and thus allowing them to develop and self-actualize.
Transactional leadership	The exchange process based on the fulfillment of contractual obligations, typically implemented by setting objectives, monitoring, and controlling outcomes.
Contingent reward	The leadership behaviors focused on clarifying role and task requirements and providing followers with material or psychological rewards contingent on the fulfillment of contractual obligations.
Management by exception (active)	The active vigilance of a leader whose goal is to ensure that standards are met.
Management by exception (passive)	This leadership behavior refers to leaders that only intervene after noncompliance has occurred or when mistakes have already happened.

Note. Adapted from Antonakis, J., Avolio, B. J., & Sivasubramaniam, N. (2003). Context and leadership: An examination of the nine-factor full-range leadership theory using the Multifactor Leadership Questionnaire. *The Leadership Quarterly*, 14, 261–295; Bass, N. M., & Avolio, B. J. (2004). *Multifactor leadership questionnaire manual and sampler set* (3rd ed.). Redwood City, CA: Mind Garden.

for flexibility has employees who highly embrace the adaptability and involvement traits. In contrast, a group that strives for stability has employees who place high regard on the mission and consistency traits. Striving for flexibility and stability cultures are crucial for the employees' successful adaptation to challenges imposed by internal (e.g., policy and procedure change) and/or external (e.g., regulatory agencies) forces which alter work group dynamics. A summary of the conceptual definitions of the four culture traits is illustrated in Table 2.

TABLE 2. Summary of the Denison Organizational Culture Model

Four Culture Traits	Definitions
Adaptability	This refers to the organization's ability to translate the demands of the business environment into action. It also denotes the organization's system of norms and beliefs, which support the organization's capacity to receive, interpret, and translate signals from its operational and competitive environment into internal behavioral changes that increase its chances for survival, growth, and development. Generally, employees have the sense of creating change, customer focus, and organizational learning.
Mission	Reflects the organization's ability to define a meaningful long-term direction that provides employees with a sense of focus and a common vision of the future. It provides a clear direction and goals that serve to define an appropriate course of action for the organization and its members. Generally, employees have the sense of strategic direction and intent, goals and objectives, and vision of the organization.
Involvement	This is a characteristic of a "highly involved" culture in which employee involvement is strongly encouraged and creates a sense of ownership and responsibility. Employees rely on informal, voluntary, and implied control systems, thereby resulting in greater organizational commitment and an increasing capacity for autonomy. Employees generally have the sense of empowerment, team orientation, and capability development.
Consistency	Defines the values and systems that are the basis of a strong culture. It provides a central source of integration, coordination, and control. Also, it characterizes organizations that create internal systems of governance based on consensual support. Generally, employees have shared core values and demonstrate agreement, coordination, and integration.

Note. Adapted from Denison, D. R. (2005). *The Denison organizational culture model*. Retrieved from <http://www.denisonconsulting.com/advantage/researchModel/model.aspx>

Through the application of FLT and DOCM, Casida (2007) was able to explicate the link between NMs' leadership and culture traits which typifies organizational effectiveness of nursing units. This finding, however, warrants further research to find conclusive evidence about the nature and extent to which the NMs and SNs conduct business in the patient care units amidst the current competitive health care market, customer (patient/family) demands for the best quality care, and cost containment without compromising patient safety.

Prior to Block's (2003) and Casida's (2007) research, there existed a very few studies which had linked specific leadership and culture traits with organizational or work group performance in both business and health care industries. Furthermore, most previous research only examined leadership and culture as separate phenomenon. Therefore, to narrow the gap of knowledge surrounding leadership and culture found at the grassroots level of patient care delivery in hospitals, Casida (2007) conducted an ex post facto exploratory research study examining high-performing patient care/nursing units in acute care hospitals. High-performing nursing units (i.e., effective nursing units) were operationally defined by the units' consistent demonstration of outstanding performance ratings found in the nursing report card. These ratings were used as a continuous performance improvement tool for evaluating nurse-sensitive outcomes across nursing units of the health care system. Moreover, outstanding ratings meant that a nursing unit had met or exceeded the health care system's benchmark on outcome measures affecting the business performance and overall financial health of the hospitals. These outcome measures included, but were not limited to, SN turnover and vacancy rates, percentage of overtime and sick time, patient infection rates, patient falls, medication errors, as well as patient care quality and satisfaction. Findings from Casida's (2007) dissertation research offers stakeholders (e.g., NMs, hospital administrators, researchers, and educators) the beginning of empirical evidence about the leadership, culture, and performance relationship at the patient care unit level and how this relationship contributes to the "bottom line" of the hospital.

In addition, it is worth mentioning that the underlying assumption of the dissertation research (Casida, 2007) was that all four hospitals operate in a single health care system's mission, vision, core values, and strategic directions. Through one-way analysis of variance (ANOVA), this assumption was supported by the results showing nonstatistical significant differences in the mean scores of NMs' leadership behaviors and nursing unit cultures as perceived by SNs. Building on these data, the *purpose* of this study was to further examine select demographic and hospital variables and the extent to which type of NMs' leadership behaviors predict a nursing unit culture. The specific aims were to (a) identify the differences in the SNs' perceptions of their NMs' leadership behaviors (TFL and transactional) and nursing unit/work group culture in terms of SNs' demographics (e.g., age, gender), hospital nursing units (critical care vs. noncritical care), magnet status (magnet vs. nonmagnet), and collective bargaining (labor union vs. nonlabor union); and (b) determine the extent to which the leadership behaviors that were frequently displayed by NMs can significantly predict a type of culture trait (adaptability, mission, involvement, consistency) found in high-performing nursing units in a hospital.

METHODS

DESIGN, SAMPLE, AND SETTING

In this study, we employed a descriptive, exploratory research design using the data provided by 278 full-time SNs who participated in the dissertation research that was implemented from 2006 to 2007 (Casida, 2007). These SNs were purposely recruited from high-performing critical care ($n = 18$) and noncritical care ($n = 19$) units in four acute care hospitals in one of the largest health care systems in the Northeast region of the United States. All hospitals provide community and tertiary levels of health care services with bed capacities which ranged from 500 to 800. In 2006, this particular health care system was ranked in the Top 20 Integrated Health Care Network in the Northeast region and Top 100 Performance Improvement Leaders in the United States. Based on the specific aims of this study, this sample size ($N = 278$) is sufficient to detect significant differences between two groups with an effect size of 0.5, a power of 0.92, and an error probability of $\alpha < 0.05$ calculated with G*power statistical program version 3.1 (Faul, Erdfelder, Buchner, & Lang, 2009). For the purpose of the original dissertation research, and this study, NMs' own perceptions of their leadership were not evaluated because of the propensity of NMs to provide higher self-ratings of leadership behaviors than their SNs (Kleinman, 2004).

RECRUITMENT AND ELIGIBILITY CRITERIA

Prior to the implementation of the dissertation research, institutional review board approvals were obtained from participating hospitals and the principal investigator's (PI) university. The PI screened nursing units' eligibility to partake in this study using the nursing report card data provided by the health care system's corporate office. Next, the PI carefully selected nursing units which had demonstrated excellent performance ratings (high performance) in all criterion measures found in the nursing report card during the first two consecutive quarters in 2006. Additional study eligibility criteria included full-time, day shift SNs who had been employed with direct report to the same NMs for a minimum of 6 months. The day shift and 6-month time frame were based on the common criteria in similar studies found in health care and business literature (Casida, 2007).

There were 40 nursing units that had met the eligibility criteria. Common reasons for not meeting the study criteria included at least one unsatisfactory rating in one of the criterion measures in the report card, newly created nursing units (less than 6 months), and units that were led by NMs covering more than one nursing unit. Upon identification of the eligible nursing units, the PI sent solicitation letters to the hospitals' vice president for patient care services, directors of nursing, and NMs to access potential SN participants. Thirty-seven NMs (93%) had given the PI permission to access the SNs. Three nursing units were excluded because two NMs were on medical leave of absence and one NM was hired less than 1 month at the time of recruitment.

MEASUREMENT INSTRUMENTS

The Multifactor Leadership Questionnaire (MLQ) Short Form 5X was used to measure the SNs' perceptions of the leadership behaviors of their NMs. The MLQ assesses a full range of leadership behaviors depicted by the FLT summarized in Table 1 (Bass & Avolio, 2004). For this study, 32 items (out of 45) in the MLQ were included in the analysis, which consisted of two leadership scales (TFL and transactional) and eight subscales (leadership key elements) conceptually defined within the FLT in Table 1. The MLQ uses a 5-point (0–4) response Likert scale, with 0 indicating a *complete absence of leadership* and 4 indicating a particular leadership style is *frequently, if not always* used by the NM. Several studies using the MLQ showed consistent reliability coefficients of $\alpha > .90$ and robust construct validity as shown by confirmatory factor index (CFI) of 0.91. The MLQ is the most common instrument used in leadership research across organizations and type of leadership roles, including NMs, worldwide. Also, the MLQ Short Form 5X has shown to be consistent in detecting effective from ineffective leaders (Bass & Avolio, 2004).

The SNs' perceptions of their nursing unit culture were measured with the Denison Organizational Culture Survey (DOCS), which was based on the DOCM summarized in Table 2 (Denison, 2005). The DOCS consists of 60 items, which asks SNs to describe their unit/work group culture using a 5-point Likert scale with responses ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The items are constructed in simple, business terms aligned with leadership that link to performance—a feature which distinguished the DOCS from other culture surveys, which primarily aimed at describing cultural behaviors (Denison, 2005; Denison & Mishra, 1995). The psychometric property of the DOCS has been established in various types of work group and organizational settings. Its reliability coefficient ranges from 0.87 to 0.92 along with a robust construct validity demonstrated by a CFI of 0.99 (Casida, 2008; Denison, Janovics, Young, & Cho, 2006).

DATA COLLECTION AND ANALYSIS

Research packets containing solicitation letters, informed consent forms, and data collection tools (demographics and survey instruments) were distributed (nonrandom) by the PI to the first 400 SNs from the 37 eligible nursing units. There were 8–13 SNs per unit who agreed to take the research packets with them. These SNs were instructed by the PI to complete the data collection tools inside their lounges or locker rooms, with door closed, to avoid distractions, thus minimizing threats for internal validity of the data. Then, they were asked to return the completed forms on or before the 30th day of receipt, via a locked drop box located in the SNs' lounge. Every week, for 4 weeks, the PI inspected the drop box for integrity. At the end of the data collection period, 278 out of 400 research packets with usable data were retrieved and yielded a return rate of 69.5 %. Subsequently, data were managed and analyzed with SPSS software version 13.0.

In this study, IBM SPSS version 19.0 was employed to analyze the data. Descriptive and inferential (parametric and nonparametric) statistical procedures were used depending on the levels of demographic, leadership, and nursing unit culture data.

Cross tabulations, independent *t* tests, and ANOVA procedures were also used to identify the differences of the NMs' leadership behaviors and nursing unit culture according to grouping variables. Finally, multiple linear regression analyses were used to determine which type of NMs' leadership behavior(s), as perceived by SNs, predicted a specific nursing unit culture trait(s).

RESULTS

CHARACTERISTICS OF THE SAMPLE

Most study participants were females (91%) with a mean age of 40.9 ± 10.2 years, and they were racially diverse (54% White and 46% nonwhite [30% Asian, 6% Black, and 10% mixed or other race]). About 64% of the SN participants were educated at or above the baccalaureate level, with a mean nursing experience and hospital employment of 14.8 ± 10.3 and 10.3 ± 8.2 years, respectively. When classified according to specific demographic and hospital grouping variables, we found significant differences in the SNs' age, years of employment, race composition, and education (see Table 3). In magnet hospitals, SNs were likely to be older and White, and the proportion of the nurses with baccalaureate and/or master's degrees in comparison to nurses with diploma/associate degrees was significantly higher than in nonmagnet hospitals. Likewise, the proportion of SNs' educational levels in nonmagnet hospitals was found to be similar to a hospital with a labor union. A comparative analysis of the differences in the SNs' demographic and hospital characteristics is summarized in Table 3.

DIFFERENCES IN NURSE MANAGER LEADERSHIP BEHAVIORS AS PERCEIVED BY STAFF NURSES

Table 4 offers a summary of the SNs' perceptions of their NMs' leadership behaviors. There were no significant differences in the SNs' perceptions of their NMs' leadership behaviors according to the SNs' age, gender, race, education, certification, years of professional practice, and tenure. However, the differences in the perceived leadership behaviors in terms of the type of nursing unit and magnet designation were significant. SNs in the critical care units perceived their NMs less as TFL leaders than as their noncritical care counterpart. Similarly, the critical care SNs' ratings on the least favorable element subsumed in transactional leadership behaviors (management by exception: passive) displayed by NMs was significantly higher than noncritical care SNs' ratings. Conversely, SNs in magnet hospitals perceived their NMs as TFL leaders and, to some extent, as slightly transactional leaders, more than their counterparts in nonmagnet hospitals (see Table 4).

DIFFERENCES IN NURSING UNIT CULTURE AS PERCEIVED BY STAFF NURSES

Overall, SN participants perceived their nursing unit culture favorably as shown by mean DOCS scores of ≥ 3.5 (out 5.0) on all four culture traits: adaptability ($3.5 \pm .57$), mission ($3.5 \pm .67$), involvement ($3.7 \pm .73$), and consistency ($3.6 \pm .61$).

TABLE 3. Demographic and Hospital Characteristics of the Sample^a

	Critical Care (<i>n</i> = 148)	Noncritical Care (<i>n</i> = 130)	Magnet Hospital (<i>n</i> = 124)	Nonmagnet Hospital (<i>n</i> = 150)	Labor Union (<i>n</i> = 73)	No Labor Union (<i>n</i> = 205)
	<i>M</i> and <i>SD</i> (\pm)					
Age (years)	41.0 (10.1)	40.9 (10.4)	42.9 (10.4)*	39.3 (9.9)	40.1 (9.9)	41.2 (10.4)
Years of professional nursing practice	16.3* (10.4)	13.1 (9.9)	15.5 (11.2)	14.2 (9.5)	14.7 (9.5)	14.8 (10.6)
Years of employment						
Nursing unit	8.6 (7.1)	7.0 (6.4)	8.3 (6.9)	7.5 (6.7)	6.8 (5.5)	8.2 (7.2)
Hospital	11.5 (8.9)*	8.6 (8.9)	11.13 (9.6)	9.6 (7.9)	9.7 (7.4)	10.5 (8.5)
	Percentage (<i>n</i>)					
Gender						
Male	7.5 (11)	9.4 (11)	11.4 (14)	5.3 (8)	7.0 (5)	8.4 (17)
Female	92.5 (135)	90.6 (117)	88.6 (109)	94.7 (143)	93.0 (67)	91.6 (185)
Race						
White	60.4 (87)	50.8 (64)	71.9 (87)*	42.9 (64)	58.6 (41)	55.2 (110)
Non-White	39.6 (57)	49.2 (62)	28.1 (34)	57.1 (85)*	41.4 (30)	44.8 (89)
Highest Education						
Diploma/associate degree	31.7 (46)	39.1 (50)	50.0 (62)*	29.6 (34)	21.4 (15)	40.0 (81)*
BS/MS	68.3 (99)	60.9 (78)	50.0 (62)	70.4 (115)*	78.6 (55)*	60.0 (122)
Specialty certification						
Certified	42.6 (63)	33.8 (44)	43.0 (54)	34.8 (53)	30.0 (22)	41.5 (85)
Not certified	57.4 (85)	66.2 (86)	57.0 (72)	65.2 (99)	70.0 (51)	58.5 (120)

Note. BS = baccalaureate degree; MS = master's degree.

^aBecause of missing data, not all *n* totaled 278.

**p* < .05 (two-tailed *t* or χ^2 tests).

TABLE 4. Differences in Staff Nurses' Perceptions of Nurse Managers' Leadership Behaviors According to Hospital Characteristics

Leadership Behaviors	Critical Care Unit (n = 148)		Noncritical Care Unit (n = 130)		p	Magnet Hospital (n = 124)		Nonmagnet Hospital (n = 150)	
	M	SD	M	SD		M	SD	M	SD
Transformational leadership	2.6	.84	3.0	.81	<.001	2.9	.73	2.6	.91
Idealized influence—attributed	2.7	.97	3.0	.94	.002	3.0	.91	2.7	1.0
Idealized influence—behavior	2.6	.86	2.8	.90	.045	2.9	.76	2.6	.95
Inspirational motivation	2.9	.86	3.2	.85	.004	3.1	.73	2.9	.95
Intellectual stimulation	2.5	.96	2.8	.85	.002	2.8	.81	2.5	1.0
Individual consideration	2.4	1.1	2.9	.93	<.001	2.8	.95	2.5	1.1
Transactional leadership	2.0	.50	2.2	.50	.75 ^a	2.2	.43	2.0	.52
Contingent reward	2.7	.93	3.0	.91	.001	3.0	.83	2.7	1.0
Management by exception (active)	2.3	.94	2.5	.96	.026	2.4 ^a	.83	2.4	1.0
Management by exception (passive)	1.2	.94	.90	.85	.006	1.1 ^a	.91	1.0	.91

^aDifference is not significant at .05 level (two-tailed t test).

There were no significant differences in the SNs' perceived culture with respect to age, gender, race, certification, years of professional practice, and tenure. Contrary to these results, SNs' perceptions of their nursing unit culture showed significant differences by education level, type of patient care unit, and magnet designation. SNs that were educated at the baccalaureate or higher level were more likely to report higher ratings of the mission culture trait of their nursing unit than SNs who had a nursing diploma or associate degree, as shown by DOCS mean scores of $3.6 \pm .60$ and $3.4 \pm .75$, respectively ($p = .030$). Equally significant was the noncritical care SNs' rating on their nursing unit culture. Noncritical care SNs reported higher ratings of the four culture dimensions than the critical care SNs. DOCS mean scores for noncritical care SNs ranged from $3.6 \pm .60$ to $3.9 \pm .70$ versus the $3.4 \pm .63$ to $3.6 \pm .73$ ranges reported by critical care SNs ($p < .01$). Finally, SNs in magnet hospitals rated their consistency culture trait higher than the SNs in nonmagnet hospitals, as shown by DOCS mean scores of $3.7 \pm .60$ (magnet) versus $3.5 \pm .60$ (nonmagnet; $p = .050$).

NURSE MANAGER LEADERSHIP BEHAVIORS AS PREDICTORS OF UNIT CULTURE

Results of the multiple regression analyses showed that more than 24% of the effects on nursing unit culture can be explained by the TFL and transactional leadership behaviors frequently displayed by the NMs. However, the best predictor for all culture variables was the TFL leadership (see Table 5). Further analyses of the significant predictive power of TFL leadership were performed to determine the extent to which any of the five leadership subscales, described as key elements in Table 1 (idealized influence [attributed and behavior], inspirational motivation, intellectual stimulation, and individual consideration), predict a specific culture trait. Multiple regression analyses showed that not all five subscales were found to be best predictors for all culture traits, and not all of the four culture traits could best be predicted by a specific TFL leadership subscale or combination of these five subscales. Although the regression model revealed that 35% of the effects of TFL leadership on consistency culture can be explained by the combinations of idealized influence (attributed and behavior) subscales, the attributed subscale was found as the best predictor for the consistency trait ($\beta = .25$, $p = .008$). Furthermore, 25% of the effects of TFL leadership on adaptability or mission culture can best be explained and predicted by the intellectual stimulation or inspirational motivation subscale. Standardized coefficients were $\beta = .25$ ($p = .005$) for the adaptability trait and intellectual stimulation subscales and $\beta = .28$ ($p = .005$) for the mission trait and inspirational motivation subscale.

DISCUSSION

In this study, the leadership–culture phenomenon and its impact on nursing unit performance outcome are elaborated further by the SNs' educational level, type of nursing unit, and hospital magnet designation. Our data also suggest that the

TABLE 5. Transformational Leadership as a Strong Predictor of Culture in High-Performing Nursing Units

NMs' Leadership Behaviors	Adaptability			Mission			Involvement			Consistency		
	Adj. R ²	β	p	Adj. R ²	β	p	Adj. R ²	β	p	Adj. R ²	β	p
Transformational	.26	.53	<.0001	.24	.52	<.0001	.25	.52	<.0001	.34	.59	<.0001
Transactional		-.05			-.09			-.03			-.02	

Note. NMs = nurse managers; Adj. = adjusted.

NMs' TFL leadership behaviors may have significantly influenced the formation of culture traits collectively shared and individually embodied by the SNs. Elements of TFL leadership construct that best predicted the type of culture traits (consistency, adaptability, and mission) formed in the nursing units were idealized influence (attributed), intellectual stimulation, and inspirational motivation.

Baccalaureate- and/or master's-prepared SNs tended to rate the mission culture trait of their nursing units higher than the SNs with diplomas or associate degrees. This difference in the SNs' views can be attributed to the growing body of knowledge that nurses educated at the baccalaureate level have stronger professional identities and values than the diploma- or associate degree-prepared nurses (Kubsch, Hansen, & Huyser-Eatwell, 2008). The differing organizational views among the SN participants is also consistent with the assumption that associate degree nurses have the likelihood of being more task oriented than the baccalaureate-prepared nurses. The latter difference is further explained by the significant variations in the curricula in the basic educational preparation of these nurses. For example, at the baccalaureate level, student nurses are introduced to the theory and practice of leadership by which they are taught and prepared about the relevance and application of systems thinking in clinical practice (American Association of Colleges of Nursing, 2008). Thus, one can infer that an SN equipped with systems thinking skills have the knowledge and appreciation of the mission and vision of the organization (i.e., hospital/health care system). Our data also suggest that SNs' professional values and beliefs were compatible with the strategic directions of the hospitals as evidenced by the dominance of the mission culture trait.

The differences in the NMs' leadership and nursing unit culture in high-performing patient care units was also determined by the type of nursing unit where the participants worked. SNs in noncritical care units reported slightly higher ratings on all of the four culture traits, exemplifying a higher degree of nursing unit effectiveness, when compared to the ratings of the SNs in critical care. (The total mean scores of the four culture traits were $3.72 \pm .60$ [noncritical care] and $3.5 \pm .54$ [critical care]; $p = .001$.) Furthermore, the SNs in noncritical care perceived their NMs as more of a TFL leader than the NMs in the critical care units. Despite the slight differences in the culture ratings, these findings support the theoretical and empirical knowledge that TFL leadership behaviors are often associated with a positive and desirable work group culture. Moreover, these findings are fundamentally and equally important in achieving improved organizational outcomes (Bass & Avolio, 1994; Cummings et al., 2010) similar to the "excellent performance ratings" found in the report cards of the participating nursing units.

The SNs' perception of noncritical care NMs as more TFL leaders than their critical care counterparts suggest that there is a stronger dyadic relationship shared among the SNs and NMs in noncritical care units. It has been shown that leaders express their TFL behaviors within a personal, dynamic relational exchange context (Wang, Law, Hackett, Wang, & Chen, 2005). Therefore, formation of this relationship between noncritical care SNs and NMs may be explained by the common knowledge and the data presented in Table 3, which indicates that noncritical care units are more likely to be staffed by less experienced nurses (e.g., new graduates) than critical

care units (Chaboyen, Najman, & Dunn, 2001). By virtue of the NMs' engagement in teaching and coaching, key behavioral elements of TFL leadership, and developing SNs' clinical competence, noncritical care SNs may have the propensity to rate their NMs more favorably on the dimensions of TFL leadership.

Further explanation for SNs in noncritical care viewing their NMs as more TFL leaders than the NMs in critical care units may be related to the NMs' role in the contrasting nursing units. The managerial requirements of an NM's job can negatively impact the relationship between SN and NM (McGuire & Kennerly, 2006). Therefore, given the complexity and high intensity present in a critical care unit, NMs may spend more time on troubleshooting and fixing operational problems rather than building the necessary long-term relationships with the SNs. For example, critical care NMs spend a considerable amount of time planning and staffing because of the constant variability in the patients or unit acuity levels, admissions, and discharges (Shirey & Fisher, 2008). Such time spent on unit functions and operations precludes the NMs' ability to be visible and engaged. SNs who have limited interactions with their NMs have less favorable perceptions of their NMs' leadership behavior (Kleinman, 2004). Hence, limited interactions and lack of engagement between a critical care NM and SN may be the underlying reason that a critical care SN views an NM as a transactional leader rather than a TFL leader.

Also, it is important to note the NMs' actions of being vigilant in frequent monitoring of the SNs' competence and compliance with hospital and regulatory agencies can have an impact on how the NMs' leadership behavior is perceived by the SNs. Although such a leader-follower dyad has been documented in other workplace such as in military services (Bass & Avolio, 2004), no empirical data is available to support the phenomenon in the acute and critical care nursing units. Anecdotal incidents revealed that the NMs in the participating critical care units were more inclined to monitor SN actions than the noncritical care NMs probably because of the high patient acuity, care complexity, and work intensity common in any type of an intensive care unit. However, the constant attention to the SNs as part of the aforementioned NMs' tasks may have led to the critical care NMs' higher ratings on the management-by-exception elements of transactional leadership (see Table 4) necessitating in-depth investigations.

The last determinant factor that differentiates the SNs' views of their NMs' leadership and nursing unit culture is the magnet status of a hospital. NMs in magnet hospitals were perceived by SNs as more TFL leaders than NMs in nonmagnet hospitals. This finding not only supports the growing evidence about the importance of TFL leadership at the bedside (Kelly, McHugh, & Aiken, 2011; Marshall, 2011), but it also validates the framework of leadership excellence by which magnet nursing is awarded (American Nurses Credentialing Center [ANCC], 2012). Magnet hospitals typically have a team comprising proficient nurse leaders who have the skill set required to effectively influence, mentor, motivate, and empower SNs to attain excellence in patient care and professional practice (ANCC, 2012). Therefore, the NMs' frequent use of these behaviors consistent with TFL leadership in this study is suggestive of their efforts to continually keep SNs engaged, and their actions aligned, with the principles of a nursing practice framework for magnet-designated hospitals defined by ANCC (2012).

Aligned with the TFL leadership behaviors of NMs in magnet hospitals, SNs rated the consistency culture trait higher than the nonmagnet hospitals. This dominance in consistency trait may have been the result of the NMs' efforts in engaging SNs with the purposes of creating a nursing unit which values and acts on the standard principles of nursing practice in magnet hospitals. The consistency culture in magnet hospitals may be promoted with a nursing organizational structure which is generally flat rather than tall. As such, a work group that embraces a decentralized decision-making process, which encourages feedback from SNs, results in a culture that values SNs participation and shared governance (ANCC, 2012). This culture formation where SNs have the ability to self-govern is a feature of a consistency culture trait that promotes agreement, coordination, integration, and control—factors which typify a strong work group or organizational culture (Denison, 2005; Denison & Mishra, 1995).

Further elaboration of leadership-culture-performance phenomena is the driving force of TFL leaders to successfully craft an effective work group culture through deliberate and purposeful leader-follower interactions referred to as *embedding mechanisms* (Schein, 2004). According to Schein (2004), the primary embedding mechanisms (e.g., leadership behaviors) used by first-line leaders determines the type of culture created in a particular work group or organization. To that end, the frequent use of TFL leadership by the NMs, which was the variable that predicted best for adaptability, mission, involvement, and consistency culture traits in this study, are reflective of Schein's assertion on the leader's use of embedding mechanisms and work group culture development, which remains understudied in nursing units. Nevertheless, our findings are not only parallel to the data which showed that TFL leadership accounted for most of the variances (70%–77%) shared with all of the aforementioned culture traits (Casida & Pinto-Zipp, 2008) but also expand the repository of evidence that TFL leadership promotes positive outcomes for the nursing workforce and for health care organizations (Cummings et al., 2010).

A unique finding of this study is related to the emergence of data surrounding the elements of TFL leadership and their influence on a type of culture trait found in effective work groups. The first key element of the TFL leadership behavior of the NM that has a predictive power on a nursing unit consistency culture is idealized influence (attributed). This type of leadership-culture connection may have emerged from NMs' portrayals of charisma, confidence, and competence in the role, which is a catalyst for arousing SNs' enthusiasm for actively participating in a leader-follower dyad where dialogue and constructive feedback are facilitated (Casida & Parker, 2011).

Notably, the individualized influence (attributed) of the NM has been shown as the strongest predictor for leadership effectiveness and satisfaction (Casida & Parker, 2011); thus, one may draw an inference that the charismatic behavior of the NM was the strongest contributor to facilitating development of a consistency culture. Within the SN-NM dyad, the NM may leverage the harmonious reciprocal relationships in which a conversation about assessing SNs' perspectives on embodying and acting on the core values of the hospital into their day-to-day patient care

activities essential for achieving an effective nursing unit outcomes. According to Denison (2005), a culture of consistency emphasizes stability through shared values, agreement, and coordination and integration. Therefore, when the NM and SN work together to coordinate and integrate the core values of the hospital to the bedside, they establish and identify a clear set of agreed expectations that results in a strong, stable culture typifying the consistency culture trait.

The second key element is the influence of the NMs' intellectual stimulation behavior on the adaptability culture trait. In this case, NMs' portrayals of taking risks, questioning the status quo, and empowering SNs to think "outside the box" can promote an innovative and creative SN typifying the adaptability trait. Because of this type of leadership, SNs have the likelihood to become flexible and adaptive to external forces that could potentially destabilize the dynamics of the nursing unit, such as the constantly changing care delivery processes, policies, and procedures imposed by technological advancements; societal demands; and regulatory agencies. Nursing units with dominant adaptability culture are more likely to have a sense of autonomy and are able to adopt new ideas when involved in the planning and implementing process of changes occurring within the nursing unit (Casida & Pinto-Zipp, 2008).

The final key element of the NM's TFL leadership behavior is his or her ability to instill inspirational motivating behavior effectively to create a mission culture trait of the nursing unit. Such a behavior is exemplified by an NM who has the passion and skill to articulate a realistic vision of the future and enable SNs' acceptance of, and commitment to, attaining the hospital vision or goals. A unit culture that manifests the mission trait has SNs that have a sense of focus and a clear sense of directions in accomplishing the organizational goals—a similar set of actions displayed by employees working in high profitable organizations (Fisher, 2000). Therefore, frequent use of idealized influence (attributed), intellectual stimulation, and inspirational motivation leadership behaviors by the NMs are more likely to create a culture featuring consistency, adaptability, and mission traits essential for maintaining flexibility, stability, and overall patient care unit effectiveness (Casida & Pinto-Zipp, 2008).

LIMITATIONS

Major limitations of this study included the analysis of an existing data derived from a nonrandom sample of day shift SNs who participated in a dissertation research. Furthermore, studies involving work group or organizational performance should account multilevel unit of analysis including, but not limited to, individuals, groups, and organizational context (e.g., skill mix, staffing pattern, workload intensity, organizational structure, low- and high-performing nursing units, influence of nurse executives/hospital administrators' leadership on NMs). Therefore, the findings should be interpreted cautiously within the specific aims and analytic procedures employed in this study. Nonetheless, despite the limitations and scope of this study, our data add to the emerging knowledge about the importance of leadership and culture as explanatory constructs for nursing unit performance (effective

or ineffective) outcomes. The findings also provide an excellent platform for more rigorous research from which a high level and quality of evidence can be generated and eventually translated into practice.

RESEARCH AND PRACTICE IMPLICATIONS

Leadership and organizational culture are both complex and multidimensional constructs, and debates on conceptualizations and measurements of the phenomena still exist (Scott, Mannion, Davies, & Marshall, 2003). Nevertheless, nurse scientists and other investigators are encouraged to advance the knowledge that has emerged from this study requiring further research. Notably, most nursing leadership and organizational culture studies are limited to descriptive, cross-sectional, and correlational designs (Casida, 2007; Cummings, et. al, 2010). Therefore, investigators should move beyond such simplistic approaches to inquiry to address the limitations inherent to this study as well as the extant knowledge paramount for validating the findings and drawing definitive conclusions about the linkages of leadership, culture, and performance in nursing units.

For example, longitudinal and randomized experimental research designs are critically important to determine how the NMs' leadership behaviors change or adapt with the type of nursing unit culture trait(s) that may be evolving in response to the changing dynamics in health care and organization's life over time. Moreover, the span of control of the NMs and night shift SNs are important variables to be evaluated to enhance the generalizability of the results. Preliminary data suggest that the proximity and quality of the interactions between the SN and NM, and to some extent the quality of nursing unit performance outcomes, have significantly influenced by the visibility and availability of the NM (Doran et al., 2004). Moreover, night shift SNs and SNs working with an NM covering multiple nursing units are less inclined to rate their NMs as TFL leaders than day shift SNs and SNs working with an NM with a single or smaller unit coverage (Doran et al.; Kleinman, 2004). Consequently, the formation of consistency, adaptability, and mission culture traits in a given nursing unit(s) may not occur (Casida, 2007).

Because leadership skills can be taught and learned (Kouzes & Posner, 2003), information and skill development about TFL leadership should be a part of the educational process for nurses in undergraduate and graduate programs and during NM/SN hospital orientation. Historically, leadership was bestowed on people with high levels of achievement, but today, it is considered a skill that can be acquired through education (Feldman & Greenberg, 2005). Equally significant in recent months is the launching of the Institute of Medicine (IOM; 2010) recommendations about the significant role of nursing leadership in transforming the health care delivery for all Americans. In collaboration with the IOM, the Robert Wood Johnson Foundation created a "call to action blue print" for all nurses and other stakeholders to help facilitate the implementation of the IOM recommendations, primarily centered on patient care quality (IOM, 2010). NMs are well positioned to transform care delivery at the point of care through integration and enactment of the IOM recommendations in their leadership roles. Creating a culture of lifelong learners, enhancing collaborative improvement

efforts, and leading the advancement of health care delivered at the bedside are three of the eight IOM (2010) recommendations by which an NM can leverage to assist in improving as well as sustaining the quality of care provided to hospitalized patients.

Identification of methods or best strategies to educate and train nurses about TFL leadership and ways to enhance TFL leadership competence among aspiring or practicing NMs are needed. To become successful and effective leaders, NMs are expected to demonstrate the competencies required for TFL leadership in today's health care (Contino, 2004). As a result, hospital administrators, particularly nurse executives, have a vital role in teaching and mentoring NMs to become competent leaders and need to be acutely aware of the reciprocal relationships between TFL leadership and the culture of an effective nursing unit. SNs and other nursing unit personnel are challenged by the constantly changing health care environment in which the NM leadership is key to sustaining a flexible and stable unit culture responsive to meeting industry demands while achieving excellent work group outcomes. The need for a balanced culture of flexibility and stability can be achieved through top-down (hospital executives) control with bottom-up (NMs and SNs) involvement in an organization (Yilmaz & Ergun, 2008).

CONCLUSIONS

This study further elaborates the leadership-culture-performance phenomena in patient care units of a hospital. Larger proportions of SNs with baccalaureate or higher educational levels make a favorable contribution to nursing unit effectiveness as a result of the TFL leadership of the NMs, specifically in noncritical care units and/or magnet-designated hospitals. Frequent portrayals of charisma, innovation, vision, confidence, and among other behaviors consistent with TFL leadership are critical for shaping and sustaining strong nursing unit culture traits by which SNs are able to act, engage, and overcome challenges and factors altering the dynamics of the work group. A skillful TFL leader and a unit culture that embraces flexibility and stability are key ingredients in the strategic position of a hospital in today's competitive health care business environment. Therefore, TFL leadership is a required skill set and a competence that must be cultivated for NMs, regardless of the type of nursing unit, to be successful and effective in influencing a positive nursing unit and hospital outcomes. Finally, nurses must be very explicit and deliberate in articulating the impact and contributions of their practice on the business performance of the organization, which should be infused by faculty during their academic education and cultivated by NMs upon entry to practice to successfully and effectively work in an era of competitive, turbulent, health care market.

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