

THE IMPACT OF SOCIAL COMPETENCIES AND ROLE FACTORS ON THE  
RELATIONAL CONSTRUCTION OF IDENTITY AND PARTICIPATION OF  
PHYSICIAN LEADERS

by

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## **DEDICATION**

*To my family—my husband Harold, for his unwavering and endless supply of positivity and support; my son Ean, who endured gestation and much of his first year of life as I completed this process; and my parents, Josephine and Timothy, for their encouragement and the ever-needed doses of reality.*

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# The Impact of Social Competencies and Role Factors on the Relational Construction of Identity and Participation of Physician Leaders

Abstract

by

JOANN FARRELL QUINN

Physicians as many other professionals are often promoted into leadership roles based upon their clinical or professional performance. Yet, many do not have the skills or the inclination to lead. In a response to increase the effective influence of professional physician leaders in healthcare organizations, several studies have sought to identify factors that predict effective leadership. However, no exploration has been conducted to understand how physician leaders construe or identify with their leadership roles. In this thesis, I develop a theoretical model that offers an understanding of how a physician leader constructs a leadership identity involving a higher level of participation within their leadership role.

The dissertation employs a sequential mixed methods approach to explore the nature and antecedents of effective physician leadership. The initial inquiry employs a grounded theory approach to understand how physician leaders come to construe themselves as effective leaders. The results of the initial inquiry offer evidence that differences in physician leaders' effectiveness is partly explained by the social

construction of their secondary professional identity. This happens through a process of individual, relational and organizational endorsement of their leadership role.

To garner further insight and clarification of this role identity and endorsement I hypothesize a research model, which posits that professional participation in leadership roles is mediated by aspects of positive psychological climate. A follow up study seeks further clarification for this effect by examining the extent to which a positive psychological climate and role endorsement mediate the relationship between social competencies and physician leaders' professional participation in leadership. In sum, these three studies offer new insights into how physicians and other professionals understand effective leadership and the factors that lead to commit themselves as an effective leader. These results expand theories of secondary leadership and also have several implications how organizations can support such leadership.

**Key words:** physician leadership; competencies; identity; psychological climate

## CHAPTER I: INTRODUCTION

### Problem of Practice

Physicians have long assumed leadership roles in hospitals, often as full time administrators or as full time clinicians with part time managerial duties (Reinertsen, 1998; Schwartz & Pogge, 2000). Although industry challenges demand more physician leadership (Stoller, Berkowitz, & Bailin, 2007), observations have been made that physicians are often promoted into administrative roles on the basis of clinical expertise but lacking qualities necessary for effective organizational leadership (Lobas, 2006; Stoller, 2008; Taylor, Taylor, & Stoller, 2008; Weston et al., 2008). “Without formal training in leadership skills, many physicians are not equipped to lead in this marketplace” (Chaudry, Jain, McKenzie, & Schwartz, 2008: 213), and “have not been great leaders” (Porter, 2008: 1).

The focus of this dissertation is a greater understanding of the factors that allow highly educated, technical professionals to transform into leaders. As a representative group of leaders within a professional services environment, the population examined is a group of practicing physicians holding part time and/or temporary leadership roles, as well as those holding full time leadership positions. I posit that physician leaders are a highly representative group of professionals and therefore are plagued by the challenges that are associated with professionals who move from individual contributor roles into leadership roles.

Friedson (1985), known for his influential work on professionalism, has written extensively on the medical profession. The traditional view of the professions is that they are largely free of the hierarchical forms of social control characteristic of other kinds of

occupations; instead, they are self-regulating, subject only to informal collegial control (Freidson, 1984: 1). Autonomy is a key characteristic of physicians (Stoller, 2009; Weiner, Shortell, & Alexander, 1997), which some have attributed to the curriculum in medical schools (Lobas, 2006); and believe to be contrary to fostering the necessary collaboration for leadership (Kerr & Slocum, 1987).

There is an increasing need for physician executives who can serve as bridges or boundary-spanners, speaking the language of and relating to both administration and clinicians (Sherrill, 2000). Yet, Hall (2005) notes that members of different professional groups have different cognitive maps that develop as a result of their professionalism and therefore, challenges can occur when different professional groups collaborate. Physician administrators in particular are faced with a difficult challenge, as often they “balance the necessity to carry out the collective ends of the governing board [or] firm against the needs and desires of those who do the medical work, thereby buffering the practice of medicine against the political and economic pressures of the environment” (Friedson, 1985). If they are able to do this well, physician administrators can foster essential teamwork between the physicians and administration in meeting the needs of healthcare organizations and the community.

Larson stated that (1979: 490), “The ideological insistence on individual aspects,... merges with specialization to confine the professional in an ideological conception of his role:...[which] exaggerat[es] the ‘dignity’ of the functions,” and brings focus to the various facets of identity which come together to form a professional self. The individual, in this case the physician, adopts an identity focused on the primary function (of diagnosing and treating patients), which is given a superior priority and

distinction. It is important, then, to consider the impact of professionalism upon the individual as a clinician, part time or temporary physician leader, and physician administrator. While they are all members of the greater organization and healthcare community, they are by profession physicians, which ‘confine the professional’ to that primary identity in many cases (Larson, 1979a).

Having spent the first fifteen years of my career in a professional services environment, I have witnessed those individuals who are technical experts in their field struggle when promoted into leadership roles. I, too, struggled with the balance of being an individual contributor and a leader as I took on management responsibility on top of my primary role. Because most professionals are promoted for their expertise in their specific field, the expectations are high for individual performance even after acceptance of a leadership role. While it may be an assumption that these individuals have a general lack of experience and training in leadership, I suggest that this is not the defining factor in their success or failure; rather the struggle has more to do with the impact of the psychological climate and acceptance of a leadership identity.

In addition to the identity issues that a professional may encounter, it has been suggested that the characteristics that make someone a technical expert can be at odds with the competencies that enable an individual to be a high performing leader. A recent study has even shown that there is a neural constraint that limits the ability to be empathetic while engaged in analytical thinking (Jack et al., 2012); therefore the ability for an individual to be socially competent while performing their technical tasks is at odds with one another. A physician is a highly technical professional and the ability to focus in on the analysis of a problem is not only valued but also necessary. Heifetz

(1994) offers a view of leadership that includes two separate realms: technical problems and leadership and authority issues. I found this dilemma in my own inquiry, beginning with my conversations with physician leaders during my initial qualitative study. Even those physicians who claim to value physician leadership inextricably link technical expertise with being a ‘good leader,’ despite citing a lack of competencies associated with effective leadership. Yet, even with these limitations, some technical experts do become high performing leaders.

Further complicating the issues surrounding physician leadership is the uniqueness of healthcare organizations and the impact upon role endorsement. Quite often, physicians are not even employees of the healthcare organization in which they practice and may hold a leadership role. This creates a dilemma in the physician leader’s understanding of their leadership identity and authority to enact their role. While there is an abundance of definitions of leadership, this study is more concerned about a physician-centric understanding of leadership and how that translates into a leadership role. With physicians historically valuing autonomy and devaluing leadership or managerial roles, it is important to have a clear understanding of how a physician adopts a leadership identity and what encourages professional participation as a leader.

We have learned from theories on emotional intelligence, as well as empirical evidence, that certain competencies are important for leadership effectiveness (Goleman, Boyatzis, & McKee, 2002; Kerr, Garvin, Heaton, & Boyle, 2006; Zaccaro, Gilbert, Thor, & Mumford, 1992) more specifically from with research emerging from within the realm of physician leadership (Taylor et al., 2008; Stoller, 2009). We also know about the importance of the social construction of identity from self-identity theory and studies on

professionalism (Freidson, 2001; Larson, 1979a). However, there remains a dearth of research on what physician leadership is and how leadership comes to be embraced by physicians.

The objective of this research is to explore the nature of physician leadership and to gain a greater understanding of the individual factors that lead to a higher level of professional participation, through the examination of social competencies, positive psychological climate, and both positive and negative role factors of ambiguity, conflict and endorsement. To this end, this research was completed through the design and execution of three distinct studies, beginning with an exploratory qualitative study using behavioral event interviews, continuing to an initial quantitative study to clarify the problem, and culminating in another quantitative study to further refine our understanding of physician leadership. Each study broadly seeks to answer the question, what is the nature of physician leadership?

### **Importance of Topic of Study**

The understanding of the nature of physician leadership is an important topic to explore as it has implications at both the practitioner and theoretical level. While many theories of leadership exist, none specifically have sought to understand leadership from the perspective of an at times unwitting physician leader who is thrust into the role, which may be temporary and even part time.

### **Research Design and Dissertation Structure**

This work is a result of a sequential mixed methods program of study including both qualitative and quantitative methods. Johnson, Onwuegbuzie, and Turner (2007: 123) define mixed methods as, “research in which as researcher or team of researchers

combines elements of qualitative and quantitative research approaches, for the broad purposes of breadth and depth of understanding and corroboration.” The initial qualitative exploration used a grounded theory approach and yielded findings that provided further direction for the subsequent quantitative studies.

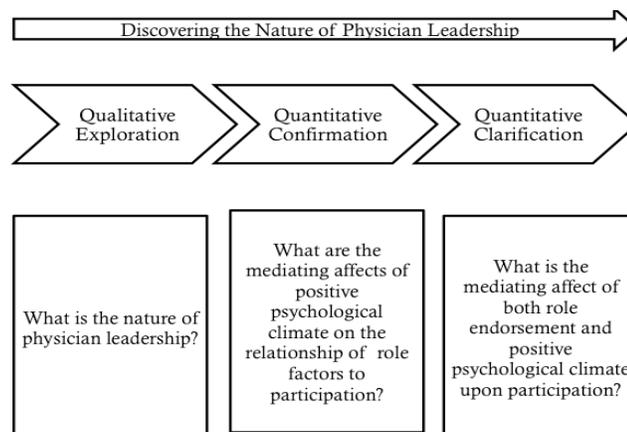
Although the initial qualitative phase of research was robust, there are limitations that arise from the fact that the data was collected from individuals within a single healthcare organization. The second and third (quantitative) studies confirm and clarify the key findings from the first study and expand the scope of the research to include members of the ACPE who are individuals across all types of organizations with physician leaders.

There are several reasons for employing a mixed methods approach to research. This three-part study focuses on triangulation, which Denzin (1978: 291) describes as, “the combination of methodologies in the study of the same phenomenon,” and seeks convergence, corroboration, and correspondence of the results across the different methods employed (Campbell & Fiske, 1959; Denzin, 1978). By exploring a concept from different perspectives, it is more likely that the agreement in results can be viewed with a higher level of accuracy. While it may be difficult to replicate the results from a study using triangulation, this study design and results are unique, as the initial sample used within the qualitative study was then included in the quantitative sample used in the second and third studies.

The first inquiry began with the question, ‘what is the nature of physician leadership?’ Informed by the literature, this inquiry sought to increase understanding on how physicians perceive themselves and enact their roles as physician leaders within

institutions under increasing pressure for more professional leadership, and a sector challenged to transform. The second study was informed by the first study and led to a quantitative approach that sought to explore confirmation of the findings surrounding the individual, relational and organizational construction of identity by physician leaders. Through this second exploration, I found confirmation of the importance of what I deemed to be role endorsement, which is the construction of a leadership identity. I also found support for the significance of mediating factors of climate, and together these results led to the third and final inquiry. To validate my theory, I continued with the quantitative approach to explore the relationship of psychological climate upon both role endorsement and professional commitment.

**FIGURE 1**  
**Research Design**



The remainder of this thesis is laid out as follows. Each study is included within this dissertation in its entirety and can be read as a stand-alone paper. Following the three studies, the final chapter (Chapter 5) provides a review of the key findings and an integrated discussion with implication for both practice and theory.

## **CHAPTER II: FIRST AND FOREMOST, PHYSICIANS: THE CLINICAL VERSUS MANAGERIAL IDENTITIES OF PHYSICIAN LEADERS (STUDY 1)**

### **Preface**

As the first study in this series of inquiries into physician leadership, this study offers a grounded theory approach to gain an understanding through inductive exploration. The results of this study set the groundwork for the continuing exploration in study 2 (Chapter 3) and study 3 (Chapter 4).

### **Introduction**

The U.S. health care industry, long recognized as “convoluted, expensive and often deeply dissatisfying to consumers,” is in crisis (Christensen, Bohmer, & Kenagy, 2000), and cries for change at both system (Ferlie & Shortell 2001; Shortell, Gillies, & Devers, 1995; Weber & Joshi 2000) and leadership (Kahn, 2003; Schwartz & Pogge, 2000; Stoller, 2008) levels are increasingly strident. The need for more “professional” leadership has been argued (Leatt & Porter, 2003) as hospitals, in particular, struggle to reinvent themselves (Shortell et al., 1995) and transition into better run, more profitable organizations.

Physicians have long assumed leadership roles in hospitals, often as full time administrators or as full time clinicians with part time managerial duties (Reinertsen, 1998; Schwartz & Pogge, 2000). While some have argued that industry challenges demand more physician leadership (Stoller et al., 2007), others have observed that physicians, often promoted into administrative roles on the basis of clinical expertise but lacking qualities necessary for effective organizational leadership (Lobas, 2006; Stoller,

2008; Taylor et al., 2008; Weston et al., 2008), “have not been great leaders” (Porter, 2008: 1).

While several studies in recent years have sought to identify factors that promote effective physician leadership (Chaudry et al., 2008; Lane & Ross 1998; Lobas 2006; Stoller, 2008; Taylor et al., 2008), there has been limited focus on understanding how physician leaders themselves construe their roles.

To address this gap, a qualitative study was undertaken. Semi-structured interviews with 25 physicians in four hospitals within a single health care organization in the southeastern United States were conducted to understand how physicians in leadership roles understand and enact them. Participants included physician administrators, physician managers, and physicians. The findings suggest that identity, at individual, relational and organizational levels has significant impact on how physicians understand and enact leadership, and that acceptance of a dual identity may be advantageous for success as a physician leader. These results may be useful to decision makers in hospitals and other health care contexts challenged with the selection and assignment of physician-leadership. These findings may also contribute useful insights to the growing niche literature on physician administrators and physician managers by providing a better understanding of physician managerial self-construal.

### **Literature Review**

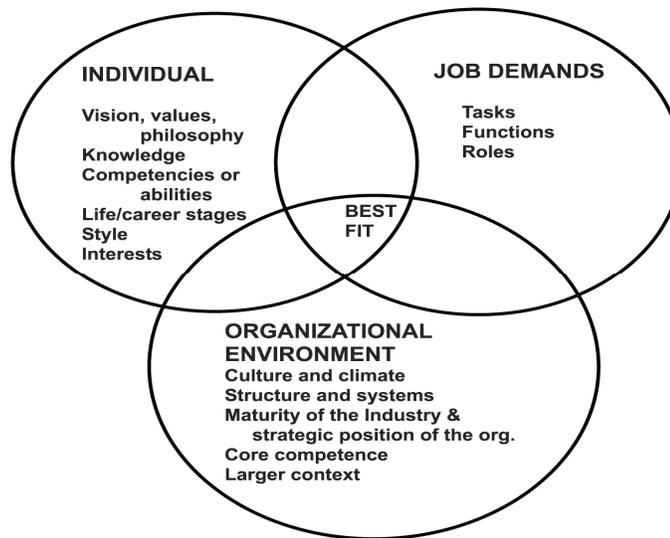
Despite marked changes in the organization of many US hospitals in recent years to address rising costs and the need for increased productivity (Aiken, Clarke, & Sloane, 2000), many long embedded institutional and structural features endure. Considering the transformation in health care in the past several decades – and increasing calls for more

of it – research on institutional features of hospitals has been remarkably limited (Kinston, 1983). While cost pressures have considerably reduced middle management staffing in many hospitals, for example, traditional management approaches prevail. The leadership and management structure of hospitals have long and typically included a mix of lay and clinical professionals. Their interaction points to a variety of issues related to “inter-professional behavior” such as authority, hierarchy autonomy and rivalry (Kinston, 1983). The first two relate to hospital structure and environment and the latter to human resource roles.

Both environment and job role are key components of Boyatzis’ Contingency Theory of Action and Job Performance (1982), which predicts organizational performance as occurring when individual capabilities are a close fit with both. The capabilities of physicians center on technical skills and clinical training – but competence in organizational management, it has been argued, is also required (Brooke, Hudak, Finstuen, & Trounson, 1998; Kindig & Lastiri-Quiros, 1989; Lane & Ross, 1998; Lobas, 2006; Schwartz & Pogge, 2000; Stoller, 2008). An obvious tension between these two roles, however, is recognized. Physicians’ performance as leaders may be compromised as they are prepared to excel as “solo performers” (Reinertsen, 1998: 833) and to “take charge” in clinical settings (Hall, 2005: 191) and have training focused less on relationships and more on action (Reese & Sontag, 2001). Boyatzis’ Contingency Theory model, although not intended to address the physician/manager dilemma, helps to frame the issues associated with it. The model demonstrates the intersection of organizational and individual factors and job demands where a “best fit” identifies a field of optimum

job performance. These three factors offer a framework for thinking about the tension between physician and leadership roles.

**FIGURE 2**  
**Boyatzis (1982) Theory of Action and Job Performance**  
(best fit (maximum performance, stimulation, and commitment) = area of maximum overlap or integration)



Boyatzis' contends that congruence between any two components of the model will increase the chance of effective performance, while inconsistency between any two will have the opposite effect (Boyatzis, 1982). If job demands conflict with the organizational environment (e.g. culture, climate, structure and systems, etc.), for example, employees will feel pressured and job performance may suffer. While performance is heightened when any two components of the model are in congruence, it is maximized when all three are in sync (Boyatzis, 1982).

Hospitals have unique organizational environments and Lobas (2006) points to the impact of their environment and structure on performance. Organizational structure, a “manifestation of powerful institutional rules which function as highly relational myths

that are binding on particular organizations (Meyer & Rowan, 1977: 343), is a “blueprint” (Meyer & Rowan, 1977: 342) for activities (ibid: 342) within them. Structures beget titles, roles and responsibilities.

Hospitals, once small organizations founded and run by physicians, are more commonly now large, complex, bureaucratic and professionally managed. Many of the current administrative problems of hospitals lie in their transitional state (Lentz, 1957) as restructuring and re-engineering in response to competitive imperatives to cut costs and increase productivity exacerbate (Aiken et al., 2000). Lentz (1957) notes that the social role of hospitals, their economic features and their internal structures are in flux. A vestige of traditional hospital structure – the extra-clinical managerial role of physicians – however, persists in most institutions. Physicians often assume part or full time roles as department chairs, committee members, directors, etc. Many of these roles are linked with clinical departments or special health care functions that operate somewhat separately from the larger organization (Lobas, 2006). But hospitals are today challenged to transform from rigid and divided hierarchies into flexible and collaborative networked communities (Bate, 2000).

Physician executives can play a part in this transformation by serving as bridges or boundary-spanners, speaking the language of and relating to both administration and clinicians (Sherrill, 2000). Hall (2005) notes the challenge when members of different professional groups attempt to collaborate, as they have different cognitive maps which develop as a condition of their professionalism. Friedson (1985) observed that physician administrators ideally “balance the necessity to carry out the collective ends of the governing board [or] firm against the needs and desires of those who do the medical

work, thereby buffering the practice of medicine against the political and economic pressures of the environment” and in doing so, foster teamwork between physicians and administration.

But, as Bate (2000) has argued, transforming hospitals into networked communities can only be accomplished if there are “dramatic changes in culture, relationships and skills, all of which have to be addressed as part of an overall organization development effort.” Relationships and skills are part of the individual factors in Boyatzis’ job performance model, which, he argues, may be a central factor in how an individual adapts to roles and responsibilities, especially within the constraints of the organizational environment.

Membership within various groups, such as work groups, organizations, and as members of a profession, defines individuals’ identification of themselves (Ashforth & Mael, 1989; Tajfel & Turner, 1985). This act of social identification assists the physicians in placing themselves (and others) into categories of classification within their environment and separating themselves as physicians from certain ‘others’ in the organization.

According to Larson, the focus upon the uniqueness and specialization of the role exaggerates the ‘dignity’ of the profession (Larson, 1979a: 490), forming the professional self. The individual, in this case the physician, adopts an identity focused on the primary function (of diagnosing and treating patients), which is given a superior priority and distinction. Larson observes that professionals are “locked in by their vocational choice, by the particular mystique of each profession, and by their whole sense of social identity” (Larson, 1979a: 490). While physicians/managers/administrators are all members of the

greater organization and health care community, they see themselves as in terms of their profession, which 'confines the professional' to that primary identity (Larson, 1979b).

This classification process is thought to occur as physicians move through their training when they are not only learning how to become a physician and care for patients, but are also being socialized into a profession and assuming their identity as a physician (Hall, 2005). Individuals assign themselves to a classification for emotional value (Tajfel, 1974) which is predicated on the respect that they receive (Ashforth & Mael, 1989). When they then shift into roles of physician-leadership, the majority hold on to their primary identity of physician (Montgomery, 2001). The 'value' of their identity lies in their expertise as a physician, which has been reinforced through their professional group.

This process of self-categorization accentuates the similarities of those belonging to the same category and the differences of those in different categories (Turner, 1985). Thus, people are depersonalized and construed as in-group and out-group members (Hogg, Terry, & White, 1995). As physicians adopt a universal persona, depersonalization is *not a negation* of identity. Instead, the individual changes the perception of his/her identity to that of the group he/she identifies with (Hogg et al., 1995). As a result of self-categorization, individuals create prototypes to represent social groups. These prototypes are defined by the greatest similarities between group members, focusing on the positive attributes of members, as well as the differences that set the group apart from others (Hogg & Terry, 2000).

As professionals, not only are physicians then confined to a professional group that excludes others, but there is reluctance to become subordinate to those outside of

their group (Bate, 2000). This may extend to their view of their own peers, as physicians accept leadership roles and are expected to support organizational goals, which may be different than their own as clinicians. As a result of their professionalization, physicians themselves impact the organization by influencing the perception of the roles – including those of physician leaders – within it.

Social identity theory does not specifically address ‘roles,’ but does set out “to explain individuals’ role-related behaviors” (Hogg et al., 1995). Through a series of reflexive social interactions, individuals acquire meaning; thus clarifying their own roles as well as the roles of others (Burke & Reitzes, 1981). As physicians adopt their own role identity, they interact with other physicians, nurses, administrators and professionals within the organization, developing self-meaning and definition through their actions and the social structure. The role of physician, or administrator, then creates a norm for behavior as an incumbent of that role, and in turn “the self as a structure of role-identities... operate(s) as a social force, affecting the structure of society by affecting behavior in important ways” (Callero, 1985: 203, citing Rosenberg, 1981).

Also important for consideration, is the view from identity theory that role-identities are hierarchically positioned, thus having differing effects upon behavior (Callero, 1985; Hogg et al., 1995). This phenomenon, explained as ‘identity salience may affect physician behavior when a second role identity (“manager”) is added to a clinician’s behavioral repertoire.

Informed by literatures on identity formation and enactment, organizational roles and environments and physicians in leadership roles, this inquiry sought to increase understanding on how physicians perceive themselves and enact their roles as managers

and administrators in institutions under increasing pressure to professionalize and a sector challenged to transform. To this end, I adopted a grounded approach.

## **Methods**

### **Methodological Approach**

Qualitative research allows us to explore “the world of participants, to see the world from their perspective and in doing so make discoveries that will contribute to the development of empirical knowledge” (Corbin & Strauss, 2007: 16). This study is a naturalistic inquiry with a grounded theory approach (Charmaz, 2006; Corbin & Strauss, 2007; Glaser & Strauss, 1977). As such, my goal was purposeful interaction with the data by systematic and rigorous analysis to generate a theory that derives from it (Glaser & Strauss, 1977) – one fitting within the context and not able to “...be completely refuted by more data or replaced by another theory” (Glaser & Strauss, 1977).

Employing a comparative methodology of data collection and analysis, including the construction of analytic codes for the data and its categorization based on emergent ideas and themes that are not preconceived and logically deduced hypotheses (Charmaz, 2006; Glaser & Strauss, 1977) is a fundamental characteristic of grounded theory. This allows for the generation of theory that is inductively developed throughout the process. The data analysis techniques are summarized below.

### **Sample**

The sample consisted of twenty-five physicians in four hospitals within a single health care organization in the southeastern United States. Participants included seven physician administrators who no longer practiced clinically and held full time administrator roles within the health care organization either during the time of the

interview or within the last five years, twelve physician managers who were full time physicians but also held an organizational leadership role as either a department chair or president of staff at one of the four hospitals in the sample, and six practicing physicians who did not hold a leadership role in the health care organization. All of the current physician administrators in the health care system that hosted the research were included in the sample plus two recently retired physician administrators. Participating physicians and physician managers represented several specialties including radiology, cardiology, orthopedics, pulmonary medicine, as well as surgical specialties. Two of the physicians were women and twenty-three were men. The sample was intended to ensure collection of adequate data to support this inquiry (see sample summary, Appendix A).

### **Data Collection**

Interviews were conducted during a two-month period from August to September 2010. Twenty-five semi-structured interviews of approximately one-hour were conducted, twenty face-to-face at a location of the participant's choosing and five by telephone. All interviews were digitally recorded and professionally transcribed.

I conducted critical incident interviews (also called behavior event interviews) (Boyatzis, 1982; McClelland, 1998), during which participants provided narrative responses to open ended questions. Respondents were first asked to describe their personal and professional backgrounds. I then asked the administrators to describe in rich detail both a typical and an atypical day in their current (or most recent) role as an administrator. The physician managers and physician were then asked to talk about someone they felt was an outstanding leader and describe a time that they witnessed outstanding leadership. Next, the physician managers and physicians were asked to recall

a specific time within the past year in which s/he felt particularly effective within his/her role as a physician (see Interview Protocol, Appendix B) and, subsequently, to describe a specific time when s/he felt less effective. All respondents, including the administrators, were then asked to recall a specific time in the last 12 months in which they were particularly effective as organizational leaders. Finally, I asked the interviewee to recall a specific time when s/he felt less effective as an organizational leader. Extensive probes were used to encourage detail.

### **Data Analysis**

Data analysis began immediately following the first interview. I listened to each recorded interview and read each interview transcript several times. The interviews were then “open-coded,” a rigorous procedure involving line by line scrutiny of each transcript to identify fragments of text (referred to as “codable moments,” (Boyatzis, 1998) that might have significance. During this process, I identified approximately 1500 fragments that were then manually sorted and labeled into 25 categories with similar fragments from previously open-coded transcripts.

During the second phase of coding, axial coding, the code categories were refined as relationships among them became apparent, and ideas and themes emerged (Corbin & Strauss, 2007). During this coding phase, I turned to the literature to inform these ideas and themes and the 25 categories were narrowed down into 8 key categories for further study.

In the final phase of coding, some categories were observed to unify around central themes (Corbin & Strauss, 1990) that form the basis of the findings. Thematic analysis was used for encoding qualitative information by perceiving and interpreting

patterns and themes present in the data (Boyatzis, 1998). Moving between the data, field notes and the literature, three key findings emerged.

### **Findings**

The data revealed distinctions in the individual, relational and organizational identity of physicians situated at three organizational levels in a typical U.S urban hospital, illustrating how physicians, physician (part-time) managers and physician (full-time) administrators internalized their organizational roles, how and the extent to which those roles were recognized and appreciated by others, and how and the degree to which all three sets of physicians identified with the larger organization in which they were situated. The data demonstrated distinct differences in how these professionals self-construed their roles and identities. While the self-concepts of members of all three groups as clinical practitioners were strikingly similar and uniformly robust, the relational and organizational identities of physician (part-time) managers versus physician (full-time) administrators, contrasted considerably. These findings may have implications for both individual and institutional performance.

#### **Finding 1: Hospital Affiliated Doctors, Regardless of Organizational Role, Status or Title, Self-Construe, First and Foremost as Physicians**

The findings corroborate previous research that has emphasized the strong professional identity projected by physicians. The physician identity of all of the respondents, irrespective of organizational role, was strongly internalized, with all three groups strongly self-categorized as clinicians. “Being” a physician was expressed as the defining characteristic of these individuals, differentiating them from others in their professional and social worlds and enabling them, as described by one respondent as

“being able to do anything.” Whether full-time practitioner, practitioner/part-time manager or physician/ full-time administrator, all respondents described their profession as central to their social identity – persisting even when the individual reduced or ceased active practice. At all levels and in all roles, physicians construe themselves and their colleagues as a closed and enduring social group.

**TABLE 1**  
**Representative Quotes: Strong Identity as Physician**

Physicians	<i>“I mean, that’s what we do as doctors, and it’s a nice feeling when you see somebody, and you diagnose the problem, and... you’re there and you take care of them.”</i>
Part Time Physician Managers	<i>“...we [doctors] think that since we’re good at one thing, we’re good at a lot of different things.”</i>
	<i>“[doctors think they] can tile your roof, do your floor, balance your checkbook, invent calculus again.”</i>
Full Time Physician Administrators	<i>“[Being a doctor], it’s in your soul. And I think to be an effective physician executive you have to have that engrained.”</i>
	<i>“I never had any other interest other than becoming a doctor going back to probably age four or five.”</i>

**Finding 2: The Extent to which Physician/Part-Time Managers and Full-Time Physician Administrators Internalize Their Managerial Roles Differs Starkly**

*2.a. While strongly internalizing their physician identity, physician/part-time managers fail to project a strong managerial identity.* The physician/manager respondents emphasized their clinician – but subordinated their leader – self-concept. Their narratives demonstrated robust identification with physicians in their immediate practice and with those in their hospital workgroup (i.e. the department with which their practice was associated), but identification with the larger organization was demonstrably weak. Physician/part-time managers, consequently, prioritized their physician, practice and workgroup roles and subjugated their organizational roles and responsibilities. Many

respondents actually denigrated their managerial roles, suggesting that failure to internalize them was purposeful. One physician manager, for example, struggled to recall his title, asking “*What am I? Vice-something...*” Another, eager to clarify that his leadership role was involuntary, explained “*a lot of these things sort of get thrust upon you as time goes on.*” Throughout the interviews, we found evidence that physicians assumed managerial roles reluctantly and, largely, as an unappreciated “duty.” Another physician manager explained that leadership roles are “*handed like a hot potato to everybody,*” and one, asked to describe his role responded, “*I have [a] nominal title as executive director of...[something]... [but]... I have no idea [what that means].*”

**2.b. Physician/ full-time administrators internalized both clinician and manager self-concepts.** In contrast to part-time managers, all of the seven boundary-crossing physician full-time administrators revealed internalized identities as both clinicians and executives. Although no longer practicing medicine, all of them continued to self-identify as physicians, suggesting, in fact, a causal connection between that identity and effectiveness in their new roles as administrators. In explaining the importance of being a physician, one administrator offered, “*If I hadn’t been a physician and couldn’t talk doctor and think doctor around those tables, I couldn’t have carried [the meetings with the medical staff] off at all.*” Another administrator explained that he believed that it was vital that all physician administrators were not only doctors, but had ample clinical experience as they moved into their roles in administration. Physician/administrators construed their current administrative roles as constituting “bridges” or conduits between two levels of their hospitals’ hierarchically structured systems and described deftly switching identities as situations and contexts mandated. As one explained, “*You have to*

*straddle the fence. That means you are both. You are a physician and you believe and think like a physician, and that's part of your morals and your ethic. And on the other hand, you have this whole body of knowledge, and this whole set of relationships, and the way you do things over here, which is administration... it's my executive hat over here. And as I say, you can't jump across the fence, you have to be solidly planted on both sides at once."* It is not only one's knowledge and training as a physician that is imperative, but also his/her experience "being" a physician that allows a physician administrator to relate to the physicians he/she advises. "I think," one administrator confided, "that because I [was] a practicing physician, I am sensitive to... [how] physicians think."

In addition to thinking like physicians, the administrators also realize that it is important how they present themselves to members of this tightly formed social group of physicians - even when it comes to appearance. As one explained, "It's as simple a thing., If I'm interacting with doctors, I don't wear a suit. I'll wear a sport coat or a golf shirt. Because if I show up in a suit, I'm a suit." The administrators embrace a dual identity and have mastered distinct behavioral repertoires associated with each.

**Finding 3: Physician/Full Time Administrators – But Not Physician/Part-Time Managers – Perceived Their Managerial Roles to be Positively Recognized by Others and to be Organizationally Endorsed**

*3.a. Physician managers did not perceive their managerial roles to be valued by peers or to be formally endorsed by their organizations.* Physicians who had adopted a part-time managerial role, even if they felt the job was necessary and believed that "someone had to do it," viewed it as a "cross to bear" that was "their turn" to assume.

Few acknowledged it as either a personal or professional opportunity for self-enhancement or associated it with merit or status. One physician noted that his leadership role was “*not anywhere near a real job. It’s just a thing.*” Many lamented that it tapped personal and professional time and pointed out that it was an uncompensated undertaking: “*I wasn’t really going to get paid for it or anything like that.*” Managers recognized that their managerial roles were temporary and understood relational risks associated with them. Incumbents reported discomfort when required to deal with human resource problems involving peers – suggesting conflict between physician and managerial identities. One physician manager noted, “*[Managing] is very hard for specialists, and even surgeons, because of the disciplinary action they have to play. Their referral sources are coming from the various people they’re disciplining and monitoring, so it’s a tough position.*” Consequently, managers felt motivated to advance organizational issues and programs of potential benefit to themselves and their peers, but reluctant to pursue those perceived to be controversial or bearing reputational risk. Their clear affiliation was to their peer group of fellow physicians rather than to organizational goals and objectives. One physician manager described his reason for accepting management roles was personal development: “*I think it’s a realization that you’re a better physician to be on top of your game [in understanding the business issues].*” Another shared that the economy had an impact upon his decision to accept a post: “*We’re in a very tough economic time... my feeling is... I’m going to help myself or my practice.*”

***3b. Physician/full time administrators perceive their managerial roles to be respected by others and to be formally endorsed by their organizations.*** Full time

physician administrators expressed allegiance to their staff and followers. *“My role here is pretty much to work with the medical staff. I’m the kind of liaison...servant leader, so to speak, to the medical staff and administration to help them govern themselves.”*

Administrators are recognized as physicians and respected for their clinical knowledge but also respected as leaders that guide physicians and physician managers in the organization. One administrator described his role as *“...helping [the physicians] understand why the hospital has to do what it has to do to protect it as a community resource and meeting the needs of the community and how that interacts and affects what they do.”* Administrators perceive their roles as respected by their peers and strongly appreciated and endorsed by the organization.

Administrators revealed an interest in serving a greater *“community purpose”* than was possible when they were practicing clinicians. *“It was my belief that I could contribute as much, if not more, to the wider community that the hospital served by paying attention to a more global thing, rather than just the 2,000, 2,500, patients that I was trying to take care of [as a physician].”*

## **Discussion**

Despite transitioning into part time management or full time leadership roles, all of the physicians in the sample retained a strong primary identity as physicians. According to social identity theory, the characteristics of a social category in which one positions oneself (in this case “physician”), *fundamentally* defines the self (Hogg, 1992, 1993; Hogg & Abrams, 1988; Tajfel & Turner, 1979). Consequently, members of socially constructed social groups often see themselves and co-members in an accentuated or exaggerated way (Hogg et al., 1995), as the interview excerpts in Table 1

vividly reveal. In self-categorizing as physicians, these respondents identified as members of an exclusive group of professionals – an elite “tribe” as aptly described by one physician administrator.

Physician managers are full time clinicians with part-time managerial duties that can include actions and decisions involving peers. Peers, however, relate to physician managers as “tribe” members – not as managers. DeRue and Ashford (2010) observe that, “if a person claims leadership in a setting but others do not reinforce that claim with supportive grants...leadership identity construction (is) insufficient for a leader-follower relationship to emerge.” The collected data suggest that physician managers, far from actively “claiming” leadership and purposefully constructing a leadership identity, denigrate their managerial roles and, in so doing, fortify peers’ trivial interpretations of those roles. This behavior, firmly footed in strong physician identity, results in a deficit of both physician manager leadership and physician-to-physician manager followership – and most certainly undermines organizational effectiveness.

Consistent with their strong physician identity, physician managers reported discomfort with correcting or disciplining peers, even when they judged the behavior of a peer to be unprofessional or threatening to the institution. Physician managers prized – and feared jeopardizing – their relationships with fellow clinicians.

Physicians assuming part time management roles also understood the cost of time spent on those roles and the opportunity loss to their clinical practices. Attention deflected to managerial duties, they reported, taxes physician partners who must then “pick up the slack.” Respondents also revealed feeling ill-equipped to handle managerial responsibilities due to lack of training and/or experience. Physician managers revealed

struggling with “business issues,” especially financial matters, and the majority referenced human resource skill deficiencies.

Contrarily, physician administrators – former physicians who have transitioned from clinician to full time managerial roles – view themselves and are viewed by others unambiguously as both physicians and organizational leaders, demonstrating the two roles are, indeed, compatible. Unlike part-time physician managers, physician administrators hold official, collectively endorsed, and thus legitimized, organizational roles. Physician managers, on the other hand, function as managers temporarily, reluctantly, and without collective endorsement. Quinn (1996) observed that leadership is a “state of being” and, consequently, one can be recognized as a leader without holding an official role within an organization. This suggests that physician managers, could, even without organizational endorsement, independently assume a “state” of leadership and successfully assemble a followership. The data I collected, however, suggests few are so inclined.

Physician disinclination to manage may be attributable, in part, to organization failure to frame, endorse and appropriately reward management roles. Respondents described the managerial role as tedious, unfulfilling and sometimes onerous (as when involving the enforcement of rules and regulations on peers). Rarely, the physicians revealed, were they asked to champion new ideas, lead change and inspire others to achieve goals. If and when they did attempt to support innovation, they were met with challenges and a lack of support from both their peers as well as administrators. These results indicate the need for deliberate reframing of the physician manager role and purposeful organizational endorsement and legitimization of it.

In a 2010 paper exploring leadership from an identity perspective, DeRue and Ashford asked, “What are the relational and social processes involved in coming to see oneself, and being seen by others, as a leader?” Noting a trend in viewing leadership less as something “prescribed because of one’s position in an organizational hierarchy” (DeRue & Ashford, 2010: 627), these authors argue it is, rather, a mutual influence process among individuals – a socially constructed and reciprocal relationship between leaders and followers that is co-created and mutually reinforced. DeRue and Ashford offer new insights on existing theory on social identity by emphasizing the process of claiming and granting, by which leader (and follower) identity is generated. They argue that leadership identity must be “internalized”, i.e. a person must incorporate being a leader as a “sub-identity.” Thereafter, the person must be seen by others as a leader, i.e. leadership must be “relationally recognized.” Finally, leadership must, the authors argue, be “collectively endorsed” and legitimated by the broader organization.

The full time administrators in this sample, but not the part time physician managers, satisfied each of these three leadership identity construction requirements. Administrators retained their physician identity but willingly incorporated their executive status as a sub-identity. In keeping with DeRue and Ashfords’ theory that “leadership identity will be stronger to the extent that it is relationally recognized,” (2010: 629) the executive status of physician administrators was perceived by them to be accepted, and respected, by physician peers and others in the organization. Administrators sensed strong and visible organizational endorsement of their roles, perceived their opinions and ideas to be respected and sought after and felt recognized as contributors to the success of the organization. Administrators reported actively “claiming” and being reciprocally

“granted” leadership. DeRue and Ashford theorized that claiming and granting tactics vary on two basic dimensions: verbal/nonverbal and direct/indirect. I found evidence of physician administrators using both. As one administrator informed me, for example, he varies his attire depending on his institutional audience – suits for meetings with non-physician management and a more casual sports coat for meetings with physicians. How he presents himself, this administrator understood, affects how his “claims” may be received and whether they are reinforced with a supportive “grant.” While administrators may no longer be officially part of the ‘tribe,’ they are still able to make use of the categorical connection as a member of the same professional group (*physician*), when enacting their role and embracing their identity as leaders.

Contrarily, physician managers strongly resisted a manager identity – often to the extent of deriding the role. Physician managers also expressed sensitivity about the trivial perceptions of their roles by peers – both they and fellow physicians considered it as an unavoidable “duty” that was not highly valued by the organization. Contrary to DeRue and Ashford’s understanding of the relational construction of identity taking place through ‘claims’ and ‘grants,’ (2010: 631), physician managers avoided ‘claiming’ their leadership title, even admitting that they didn’t know their title, or had “a nominal title” or had “no idea” what their title meant. DeRue and Ashford argue that a reinforcing grant is essential to the identity construction process, but physician manager peers (practicing physicians) did not provide them. Neither did physician managers perceive they had not been granted the power necessary to lead or to gain the support of peers.

DeRue and Ashford’s conception of identity as relational and collective (2010) is reminiscent of Giddens’ case for the ‘mutual dependence of structure and agents’

(1979:69). “The concept of structuration involves that of the duality of structure, which relates to the fundamentally recursive character of social life and expresses the mutual dependence of structure and agency” (Giddens, 1979: 69). Giddens argues that the “individual is a reflexive agent, connecting reflexivity with positioning and co-presence” (Giddens, 1984: 162). The construction of an identity is therefore dependent upon both the stability of the social structure, and the ever-changing fluidity of the individual interacting within the social environment – i.e. “the individual and society are mutually constitutive” (Howard, 1994: 210). Giddens further contends that structure “is always both enabling and constraining, ” with “structure” defined as “rules and resources” (Giddens, 1984: 169). As the physician leader moves within his/her environment, reflexivity (defined by Giddens as both action as well as knowledge and meaning), impacts him/her in the creation of identity and relationships (Giddens & Pierson, 1998).

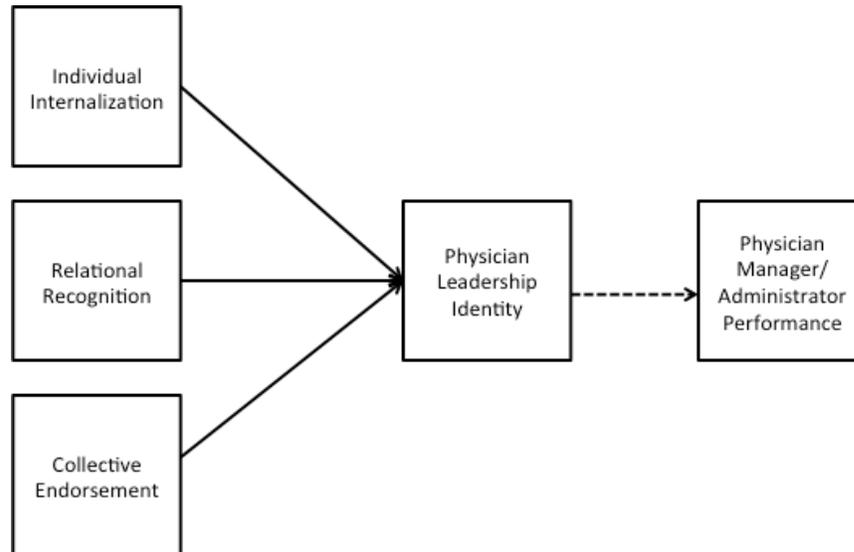
According to Ratner and Miller (2001), people act based upon self-interest, but they may also do so when motivated to “preserve a collective good” (Brewer & Gardner, 1996: 86). This may explain why some physician managers reluctantly accepted executive positions despite the absence of relational and organizational support for them. Several managers in the sample cited, for example, concern for the financial security of their own practices and, more generally, those of their “tribe” as a reason to serve in managerial posts. These physician managers endured temporary discomfort for a perceived reward for themselves and others within their social group. In stark contrast, physician administrators expressed altruistic motivations for their transition to full-time hospital leadership positions. Their revelations of commitment to the greater

organizational goals of their institutions contrasted vividly with the self, and the interests of the “tribe” expressed by the part-time managers.

This inquiry revealed differences in how part time and full time physician executives view themselves and their roles – differences that should be of concern to hospital boards and top management seeking superior institutional performance. Leaders cannot simply be “appointed” – rather they are socially constructed. Leadership must be both claimed and granted. Reciprocal claims and grants, “promote individual internalization of leader and follower identities and their relational recognition in group members’ roles and relationships” (DeRue & Ashford, 2010: 632). As others in the organization come to recognize and understand this emerging relational structure and pattern of influence, “the leadership identity becomes collectively endorsed in the broader organizational context” (DeRue & Ashford, 2010: 632).

The data I collected revealed self-identity construction as a key factor affecting physician manager performance. The narratives of the respondents revealed, as depicted in Figure 2 below, that role internationalization, relational recognition, and organizational endorsement are critical antecedents of leadership self-construal by physicians.

**FIGURE 3**  
**Physician Manager/Administrator Identity**



*\* Note that the dashed line denotes an implied relationship. While the selection process was based upon effectiveness, this relationship was not tested.*

The data suggests that at the full-time hospital administrator level all three conditions are evident. At the part-time physician manager level, contrarily, all appear weak or nonexistent. These differences have clear implications. In a 2002 article, Dukerich, Golden and Shortell noted, “identity and identification may provide insights into some fundamental challenges of managerial life,” such as, “why some members of organizations regularly engage in cooperative behaviors... whereas others do not” (2002: 507). Hospitals might benefit by engaging in purposeful “identity work” to better frame the roles of physician managers and administrators, offering grants that stimulate relational recognition and collective endorsement of those roles. Identity work relates to “people being engaged in forming, repairing, maintaining, strengthening or revising” identities (Sveningsson & Alvesson, 2003: 1165).

The findings from this study imply the importance of frank recognition by top hospital management of the neutral to negative attitudes toward physician manager roles held not only by clinicians currently in those roles, but by the broader community of hospital affiliated physicians. The data recommends a conscious effort by management to address those attitudes by reforming and revising physician manager identity and reinforcing it as legitimate. Such effort, I conjecture, can strengthen physician managers construal of their roles, their beliefs about the value of their work, the time and effort they dedicate to it and, ultimately, their contribution to the organization.

### **Limitations**

Although the physicians in the sample were affiliated with four community hospitals, all of them were part of a single not-for-profit health care system in one geographical locale. Including hospitals with different structures (e.g. for profit, not for profit, teaching, or specialty) and in different U.S. regions may have produced different results. I limited this sample to physicians who held department chair or president of staff positions, although other physician manager jobs exist both in the health care system that supported the research, as well as in other health care organizations. A broader sample may have produced different results. The methodological approach required respondents to recall past experiences and events and I recognize the potential effect of time on memory.

### **Implications for Practice and Future Research**

These results have implications for both practice and future research. For the past two decades, the health care industry has been impacted by economic, legal, and structural changes that have altered the relationship between physicians and health care

organizations (Zuckerman, Hilberman, Andersen, Burns, & Alexander, 1998).

Physician-leadership is attracting keen interest from both scholars and practitioners and can be expected to be an intensified research domain in the years ahead. Taylor, Taylor, and Stoller (2009), for example, point to the need for specific research on physician leader training. My own work points to a broader and more fundamental need – a modified mindset about the nature and value of physician leadership. A better understanding of physician beliefs and attitudes about leadership – as well as institutional impediments to it is wanting. Empirical work on organizational commitment to physician leadership and cultural acceptance of it are recommended. Replication of this study involving a broader selection of hospitals and a wider breadth of physician manager roles is indicated.

These findings may be of interest to hospital administrators and boards seeking deeper commitment and higher performance from physician managers. Results suggest the need for change in how organizations frame and promote physician leadership. Understanding physicians' biases about being managers and appreciation for the strength of their primary identity as physicians should provoke health care boards and leaders to consider new approaches to selecting, training and rewarding physician managers.

## **CHAPTER III: THE MEDIATING ROLE OF VISION AND COMPASSION IN PHYSICIAN LEADERSHIP (STUDY 2)**

### **Preface**

This study employed the use of quantitative methods to continue the inquiry into physician leadership, building upon the findings of Chapter 2, with particular interest in understanding the mediating affect of what I have determined to be positive psychological climate. This construct was also explored with greater clarity in the third study, presented in Chapter 4.

### **Introduction**

Physicians have long held leadership roles within hospitals and other healthcare organizations (Reinertsen, 1998). While there is considerable research on physician leadership from a variety of disciplines (Chaudry et al., 2008; Lobas, 2006), there is a lack of focus on the nature of physician leadership. I propose that a key factor in how physicians understand their leadership roles is tied to the construction of identity. We know that identity is an ongoing process of framing, based upon interactions with others and the environment (Foreman & Parent, 2008).

The differentiation in identity from a clinician to a leader offers a unique perspective of study that could greatly impact how we understand physician leadership. The challenge for healthcare organizations concerned with improving physician leadership goes beyond selection and development, with a greater focus needed on how physicians understand and construe their roles as leaders.

Leveraging the findings from my first inquiry into physician leadership, I also hope to understand the impact of role conflict, as well as role endorsement upon

physician leader participation. I offer a model, which theorizes that positivity mediates the relationship of role stress and endorsement upon participation. I seek to validate these hypotheses based upon responses from 677 physician members of the American College of Physician Executives.

This paper contributes to our knowledge on physician leadership from both a theoretical and practical perspective. It is the first study to empirically test the impact of role endorsement. These findings not only expand upon current research (DeRue & Ashford, 2010; Quinn & Perelli, 2011), but also inform healthcare leaders on the impact of role conflict and endorsement for the involvement of their physician leaders.

This paper begins with a review of the literature on physician leadership, identity and role, aspects of positivity and organizational participation. Building upon these theories, I develop a theoretical framework and an associated set of hypotheses. I then report the research methodology and sample, analyze the results, and discuss the findings. Finally, I conclude with a discussion of the implications to research and practice.

### **Theoretical Foundation**

In this section, I briefly review literature discussing physician leadership, the impact of positive relationships, and identity and role. I also review results of my previous qualitative study on physician leaders, highlighting the findings related to role and identity.

### **Physician Leadership**

Physicians often assume part or full time roles as department chairs, committee members, directors, and other administrative roles in hospitals and healthcare organizations. Often, physician leadership roles are held within clinical departments or

specific functions that operate somewhat separately from the larger organization (Lobas, 2006). There is a need for a higher level of involvement from a managerial perspective because of increasing pressure from the way medicine is *'determined', 'accessed', 'organized', 'monitored', 'delivered'* and *'paid for,'* - and this need is being placed upon physician leaders (Montgomery, 2001). Montgomery suggests that the intra-professional divisions between clinicians into areas of functional expertise may not be as relevant as the division of physicians into clinician and manager due to the changing structure of healthcare (Montgomery, 2001). This separation between clinical roles and physician leadership roles starts to look like two different professional groups.

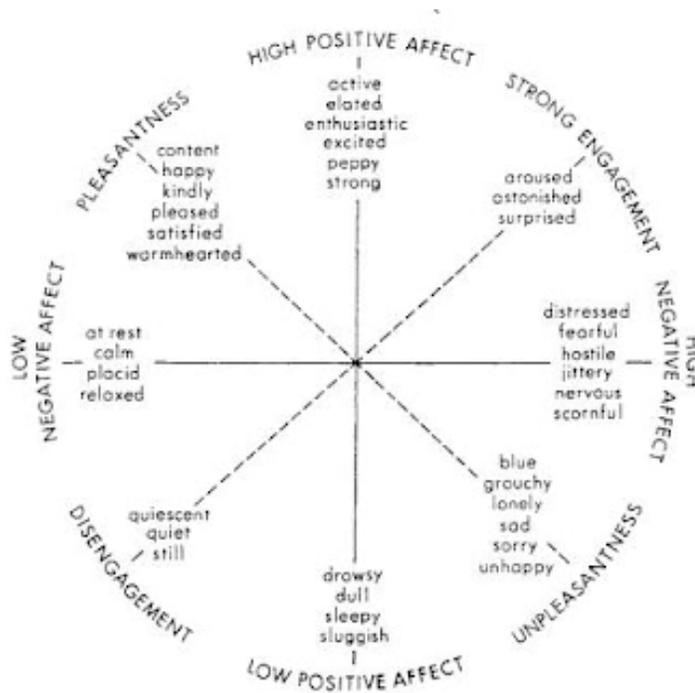
Hall (2005) notes that there is an inherent challenge for members of different professional groups to collaborate, as they have different cognitive maps, which develop as a condition of their professionalism. Physician leaders hold a unique opportunity to serve as boundary-spanners, because they speak the language of and relate to both administration and clinicians (Sherrill, 2000). Yet, in order to bridge the gap between administration and medical staff, physician leaders must face the *'tribal stigma'* (Goffman, 1963) that exists between members of different social groups.

### **Positivity and the PEA/NEA**

The field of positive psychology has aided in our understanding of what leads to individuals thriving emotionally at the individual, community and societal level (Seligman & Csikszentmihalyi 2000). In the case of the current study, I am particularly concerned with the role of affect, which Tellegen, Watson and Clark (1999) define as positive and negative emotional activation. In an effort to define affect, Watson and Tellegen (1985) constructed a model with a two-dimensional structure that plots high and

low positive and negative affect, as well as two other dimensions of un/pleasantness and dis/engagement. See Figure 4 for a representation of this model. It is noteworthy that ‘positive affect’ and ‘negative affect’ are separate dimensions- not at opposite ends of the same continuum. Psychologists have found evidence that positive affect is not the bipolar opposite of negative affect: “it seems that a human being is not a pendulum, moving between opposite feelings” (Russell & Carroll, 1999: 3), rather an individual can have feelings of happiness and sadness at the same time.

**FIGURE 4**  
**Watson and Tellegen’s (1985) Two-Dimensional Map**



Boyatzis has argued that Positive Emotional Attractors (PEA) and Negative Emotional Attractors (NEA) are critical in affecting behavior, influencing one on a cognitive, emotional, social and physiological basis (2008). Positive and negative

emotional attractors are described by Boyatzis (2008b) as destabilizing forces that create psycho-physiological states that drive the change process. These ‘strange attractors,’ first introduced by Lorenz (1963), “create forces that pull our behavior, attitudes, feelings, and such around them, but not into them (Boyatzis, 2011). According to Boyatzis (2006), experiences in the Positive Emotional Attractor (PEA) are thought to arouse neuro-endocrine systems, and this stimulation leads to higher cognitive functioning, increased openness to ideas, emotions and people, positive emotional states, and increased immune health. Conversely, the stimulation of the Negative Emotional Attractor (NEA) leads to a decrease in cognitive function, perception and immune function (Boyatzis, 2006). As previously noted in the Watson and Tellegen model, the PEA and NEA model is grounded in the theory that positive and negative affect are not merely bi-polar (Russell and Carroll 1999), but instead are represented by three different dimensions (Boyatzis, 2008b). The key is to have the proper balance of the negative and positive attractor for effective functioning.

The PEA is related to a shared vision, compassion and overall positive mood (Boyatzis & McKee, 2005). The PEA refers to the relationship of the leader and the followers, such that both the leader and follower e affected, and it has been shown to impact the follower’s job satisfaction, organizational commitment, turnover intention, health, effort, learning, and development (Bass, 1990; Bommer, Rubin, & Baldwin, 2004; Gerstner & Day, 1997).

Shared vision is the process in which the PEA moves between people. Vision is one of the scales of the P/NEA survey (Boyatzis, 2008b), and vision has been shown to

predict championing behavior (Clayton, 2009), success in family businesses (Neff, 2011), and even increased organizational engagement (Mahon, 2010).

Compassion, another sub-dimension of Boyatzis' P/NEA measure (Boyatzis 2008) plays a fundamental role in our human existence, and is vital to our humanity (Himmelfarb, 2001). Boyatzis, Smith and Beveridge (2012) define compassion as “an interpersonal process that involves noticing another person as being in need, empathizing with them and acting to enhance their well-being in response to that need.” While compassion has been studied for thousands of years within philosophy, sociology and religion, its value has often been overlooked within organizations (Kanov et al., 2004). Compassion is essential as a connection between individuals within an organization (Frost, Dutton, Worline, & Wilson, 2000). Just as compassion is an element in ideal physician-patient relationships (Rayburn, 2006), physicians who take on leadership roles must also value the importance of compassion in relationships with the other physicians they work with and lead.

Accordingly I posit:

*Hypothesis 1a. Vision has a positive effect upon an increased level of participation in role-related activities.*

*Hypothesis 1b. Compassion has a positive effect upon an increased level of participation in role-related activities.*

### **Identity and Role**

Individuals define their identity through membership within various groups, such as work groups, organizations, and as members of a profession (Ashforth & Mael, 1989; Tajfel & Turner, 1985) and social settings determine the characteristics of people likely to be in that environment (Goffman, 1963). Physicians' social identification then places

them (and others) into categories of classification within their environment and separates themselves as physicians from certain ‘others’ in the organization.

According to Larson, the focus upon the uniqueness and specialization of the role exaggerates the ‘dignity’ of the profession (Larson, 1979a: 490), forming the professional self. The individual, in this case the physician, adopts an identity focused on the primary function (as a clinician), which is given a superior priority and distinction. Larson observes that professionals are “locked in by their vocational choice, by the particular mystique of each profession, and by their whole sense of social identity” (Larson, 1979a: 490). While physicians, managers, and administrators are all members of the greater organization and health care community, they see themselves as in terms of their profession, which ‘confines the professional’ to that primary identity (Larson, 1979a).

The social classification process begins in medical school. Physicians are not only gaining technical expertise, but are also being socialized into a profession and assuming their identity as a physician (Hall, 2005). Individuals assign themselves to a classification for emotional value (Tajfel, 1974) which is predicated on the respect that they receive (Ashforth & Mael, 1989). When they then shift into roles of physician-leadership, the majority hold on to their primary identity of physician (Montgomery, 2001). The ‘value’ of their identity lies in their expertise and education as a physician, which has been reinforced through their professional group. In addition, my past research has indicated that some physician leaders not only subjugate their leadership role, but they actually disparage their leadership role, with comments describing their job as “not anywhere near a real job. It’s just a thing” (Quinn & Perelli, 2011: 18).

This process of self-categorization accentuates the similarities of those belonging to the same category and the differences of those in different categories (Turner, 1985). Thus, people are depersonalized and construed as in-group and out-group members (Hogg et al., 1995). As physicians adopt a universal persona, depersonalization is not a negation of identity. Instead, the individual changes the perception of his/her identity to that of the group he/she identifies with (Hogg et al., 1995). As a result of self-categorization, individuals create prototypes to represent social groups. These prototypes are defined by the greatest similarities between group members, focusing on the positive attributes of members, as well as the differences that set the group apart from others (Hogg & Terry, 2000).

As professionals, not only are physicians then confined to a professional group that excludes others, but there is reluctance to become subordinate to those outside of their group (Bate, 2000). This may extend to their view of their own peers, as physicians accept leadership roles and are expected to support organizational goals, which may be different than their own as clinicians. As a result of their professionalization, physicians themselves impact the organization by influencing the perception of the roles – including those of physician leaders – within it.

To understand the nature of physician leadership with respect to the multiple roles they must assimilate, are informed by social identity theory, which does not specifically address 'roles,' but does set out "to explain individuals' role-related behaviors" (Hogg et al., 1995). Through a series of reflexive social interactions, individuals acquire meaning; thus clarifying their own roles as well as the roles of others (Burke & Reitzes, 1981). As physicians adopt their own role identity, they interact with other physicians, nurses,

administrators and professionals within the organization, developing self-meaning and definition through their actions and the social structure.

The role of physician, or leader, then creates a norm for behavior as an incumbent of that role, and in turn “the self as a structure of role-identities... operate[s] as a social force, affecting the structure of society by affecting behavior in important ways” (Callero, 1985: 203, citing Rosenberg 1981). The self is now considered to be “multiple, varied, changeable” and in fact may adapt to the context (Salgado & Hermans, 2005: 3). Thus, the construction of meaning for an individual is dependent upon relationship with other people, including an individual’s meaning of self (Cross, Bacon, & Morris, 2000; Salgado & Hermans, 2005).

DeRue and Ashford (2010) proposed that, “if a person claims leadership in a setting but others do not reinforce that claim with supportive grants...leadership identity construction (is) insufficient for a leader-follower relationship to emerge.” Previously, I studied physician leaders who held part time leadership roles, as well as full time clinical roles and found that peers relate to physician managers as “tribe” members, and often not as leaders (Quinn & Perelli, 2011). This idea was tested through behavioral event interviews and continues the analysis in this paper, hypothesizing that:

*Hypothesis 2. Vision partially mediates the positive relationship of role endorsement upon participation.*

*Hypothesis 3. Compassion partially mediates the positive relationship of role endorsement upon participation.*

Moreover, identity theory informs us that that role-identities are hierarchically positioned, thus having differing effects upon behavior (Callero, 1985; Hogg et al.,

1995). Therefore, even when an individual accepts additional identities, there is still a primary identity that may inform behavior.

“According to the chain-of-command principle, organizations set up on the basis of hierarchical relationships with a clear and single flow of authority from the top to the bottom should be more satisfying to members and should result in more effective economic performance and goal achievement than organizations set up without such an authority flow” (Rizzo, House, & Lirtzman, 1970). This idea was established decades ago, yet the premise still remains. Role theory offers that individuals become stressed and dissatisfied when the behaviors expected in their role are inconsistent (Rizzo et al., 1970). Role conflict therefore occurs when the expectations of the role are contradictory (Hardy & Conway, 1978).

Increasing the level of participation and improving performance is in effect dependent upon a greater understanding of role conflict. While many scholars have studied role conflict (Friedman & Podolny 2006; House & Rizzo, 1972; Jackson & Schuler, 1985; Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964; Rizzo et al., 1970), questions still remain as to what the impact of role conflict is, and how to measure the consequences.

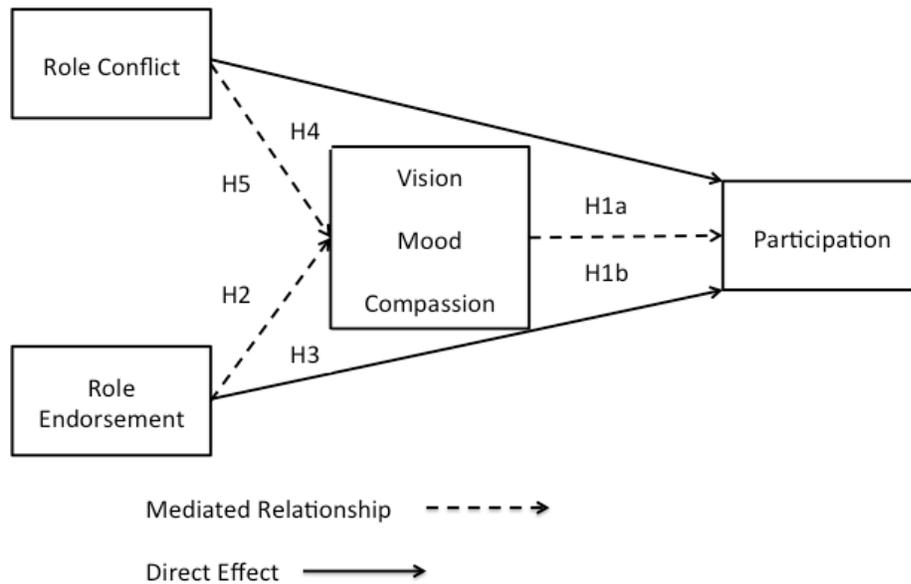
Negative emotions, such as those associated with role conflict, are correlated with a lower likelihood of cooperation (Cremer & Hiel, 2006). Yet, job satisfaction has been found to mediate role stressors to organizational citizenship behavior. In my analysis, I am interested in the impact of role conflict, one form of role stressor, and its affect upon participation, which is a sub construct of organizational citizenship behavior, therefore I hypothesize that:

*Hypothesis 4. Vision partially and positively mediates the negative relationship of role conflict upon participation so that the relationship of compassion to participation is positive.*

*Hypothesis 5. Compassion partially mediates the negative relationship of role conflict upon participation so that the relationship of compassion to participation is positive.*

Guided by the literature, Figure 5 depicts the postulated predictive relationships in the research model. The present study’s key dependent variable is participation. P/NEA are included in the model as the key managerial interventions that influence participation. The model also includes both role conflict and role endorsement that may lead to favorable/unfavorable P/NEA.

**FIGURE 5  
Research Model**



**Methods**

To explore the nature of physician leadership beyond my initial quantitative inquiry (Chapter 2) I conducted a survey-based study to validate the outlined hypotheses.

I followed a psychometric survey methodology that maps individual responses to the underlying concepts within the model. In an effort to capture representative data on physician in leadership, I surveyed the membership of the American College of Physician Executives (ACPE).

### **Measurement of Research Variables**

To ascertain and measure the relevant dimensions of the model, this process proceeded in four stages: development of the survey instrument, development of measurement scales, pretesting to assess the reliability and validity of the survey instrument and data collection from a sample of physicians with membership in the American College of Physician Executives (ACPE), the largest health care organization for physician executives in the US.

Where possible, construct items were based upon previously validated measures; otherwise, indigenous items were developed based on a review of pertinent literature and using a procedure consistent with prior studies (Churchill, 1979; Koufteros, 1999). All first-order constructs were specified with reflective indicators, except for Participation. Participation is defined by five formative indicators adapted from the work of Van Dyne, Graham and Dienesch's measure of organizational citizenship behavior (1994). I believe these indicators cause participation.

### **Construct Development**

Although most scale items were adapted from those in the existing literature with slight modifications to reflect the focus of this inquiry, a new scale was developed to measure role endorsement.

***Independent variables: Role conflict and role endorsement.*** Role conflict items

were adapted from the work of Rizzo et al. (1970). The scale contained 15 items, which were measured on a 5 point scale ranging from 1-“Strongly Disagree” to 5-“Strongly Agree”. I selected four role conflict items most suited to this inquiry as they were the most closely aligned with the role conflict I sought to test.

Role endorsement was informed by my earlier work on physician leadership and adapted from DeRue and Ashford (2010). I developed six items to measure the claiming and granting of leadership within peer relationships, as well as from an organizational perspective. The items were generated based upon the work of DeRue and Ashford, as well as my own previous inquiry into physician leadership (Chapter 2) to measure the theoretical domain of interest. These items were then tested through a preliminary survey sent to a representative population of physician leaders and items were tested through a confirmatory factor analysis and tested for convergent and discriminant validity.

***Dependent variable: Participation.*** I adapted a multi-item construct of organizational citizenship behavior using participation as a major component. I adopted five items that measure participation, from the original 54 items in Van Dyne et al.’s measure for organizational citizenship behavior (1994). These items were measured on a 5-point scale ranging from “1-strongly disagree” to “5-strongly agree.” This measure of participation specifically considers extra-role behaviors and includes scale items such as: frequently makes innovative suggestions to coworkers; keeps well informed where opinion might benefit the organization. These may therefore be more representative of a measure of striving to improve performance.

***Mediating variable: Positive emotional attractor.*** To measure positivity, I employed Boyatzis’ PNEA scale (2008b), which includes three subscales, vision,

compassion and overall positive mood. All items were measured on a 5-point scale with “strongly agree” at the extreme positive end and “strongly disagree” at the opposite end of each scale.

**Controls.** I included several controls, including role, tenure in role and in organization, age and gender. Rousseau and McLean Parks (1993) noted that employees who have long tenure in their organizations tend to have strong organizational ties, and it has been found that the confidence developed in a role leads to increased competence and feelings of organizational commitment (Salancik, 1977). Age and gender have also been used in numerous studies across disciplines to assess impact upon results, and these were included to ensure the accuracy of the data.

The multi-items for each of the constructs are summarized in Appendix A.

## **Sample**

The population sampled was the membership of the American College of Physician Executives (ACPE), which is the largest organization for physician executives in the nation. The ACPE is accredited by the Accreditation Council for Continuing Medical Education and has greater than 9,000 members from the United States and 45 other countries, holding roles including chief medical officer, chief executive officer, vice president of medical affairs, directorships, as well as others (ACPE Website).

I employed an online method of delivery for the survey, which was emailed out to members of the American College of Physician Executives (ACPE) by the management of the organization. The ACPE has over 9,000 registered members who are self-selecting into the organization, with the requirement of full members being allopathic (MD) and osteopathic (DO) physicians; dentists (DDS or DMS); and podiatrists (DPM).

Respondents were provided a URL to the survey, which was deployed through Qualtrics, a popular online survey research tool. Of the 9,083 contacts that received the email with the survey link, 8,672 emails were delivered, 2,148 were tracked as opened, 1,030 clicked on the link for the survey, and 936 physicians started the survey. The sample was then reviewed for missing values resulted in a final sample size of 677.

The data was collected beginning in July 2011, with 547 males and 128 females responding (81% and 19%, respectively). Of the respondents, 420 stated their leadership role as full time and 222 as part time, with the remaining responding with ‘not applicable.’ 308 (46%) of respondents stated their age as 55 or older and of that age group, 240 reported their role as full time. The American Medical Association (AMA) delegates reported 79.4% as male and 20.6% as female and 77.3% as over age 50 as of December, 2010 (AMA 2011 Annual Meeting), therefore I believe that this sample is objectively representative of the population of physicians in leadership.

**TABLE 2**  
**Demographics for Part Time Physician Leaders**

<b>Gender</b>		
Female	50	22
Male	178	78
<b>Age</b>		
30-40	28	12
41-45	32	14
46-50	46	20
51-55	35	15
Over 55	87	38
<b>Graduate Degree in Healthcare Leadership (MPH or other)</b>		
Yes	42	18
No	187	82
<b>Master of Business Administration (MBA)</b>		
Yes	38	17
No	191	83

**TABLE 3**  
**Demographics for Full Time Physician Leaders**

<b>Gender</b>		
Female		
Male	351	83
<b>Age</b>	73	17
30-40	26	6
41-45	39	9
46-50	53	12
51-55	99	23
Over 55	209	49
<b>Graduate Degree in Healthcare Leadership (MPH or other)</b>		
Yes	148	35
No	279	65
<b>Master of Business Administration (MBA)</b>		
Yes	99	23
No	327	77

### **Measurement and Instrument Development**

In developing the survey instrument, I first sent a list of itemized questions to ten respondents, including several physician leaders, and asked them to comment on the flow, clarity, timing, and the respondents' interest through completion rate. I modified a couple of the items to ensure that exact meaning was conveyed and understood. The pre-test was then followed by asking three individuals to read the questions aloud and answer them in order to assess cognitive difficulties presented by the survey items (Bolton 1993). I also adjusted the language of one item for clarification.

Next, I conducted a pilot survey with 65 physicians working in four hospitals within a single healthcare organization to perform an exploratory factor analysis (EFA) for each hypothesized construct within the model. The pilot survey was carried out online. The items were found to be acceptable for factoring within each construct and no adjustments were made following this step.

## **Data Screening**

Prior to the analysis, I removed missing values related to the latent constructs. The data was screened for linearity, normality, multicollinearity, skewness, and outliers and found to be adequate for analysis. I ended up dropping 260 data points due to missing values. There were no significant outliers, as the survey employed the use of primarily Likert scales.

## **Statistical Analysis**

The research model was tested using Partial Least Squares (PLS-Graph, v3.0, Build 1060, (Chin & Frye, 1998)). An assumption for a covariance based SEM analysis is that the items used to measure a latent variable are reflective (Chin, 2010). 'Since PLS explicitly estimates the outer weights to form construct scores, modeling formative indicators is much less problematic' (Chin 2010: 664). Jarvis, MacKenzie and Podsakoff (2003) provide a set of four decision rules based on: (1) direction of causality based on conceptual definitions, (2) interchangeability of the indicators, (3) co-variation among the indicators, and (4) nomological net of the indicators. Taken together, these rules can suggest either a reflective or formative model formulation. I found that the dependent variable, participation, is formative in nature, therefore PLS-Graph was used to analyze the model.

## **Measurement Model**

*Exploratory factor analysis- reflective constructs only.* I conducted an EFA (exploratory factor analysis) using principal axis factoring and PROMAX rotation. Sample size was adequate with 677 usable responses across 28 items. The Kaiser-Meyer-Olkin (KMO) value was .932 and the Barlett's Test of Sphericity was significant ( $\chi^2 =$

8935.759,  $df = 378$ , and  $p < .000$ ), indicating sufficient intercorrelations for factors to emerge. I ran the analysis by using the default Eigen Value greater than one criterion. Five latent constructs hypothesized *a priori* in the model, emerged from the data. The constructs explained a little over 48% of the variance within the data. I also conducted a sensitivity analysis by re-running the EFA specifying 6 and 7 factors, but found considerable cross-loadings, in particular mood loaded across three factors, with both negative and positive results. As this was contrary to theory, I eliminated mood from the model.

I examined the pattern matrix for initial convergent and discriminant validity. I employed criterion designated by Hair, Celsi, Money, Samouel, and Page (2011), which states that factor loadings in the range of .3 to .4 are considered acceptable for interpretation of structure, and given the sample size of 677, each loading over .3 is considered statistically significant. The criteria used by Igbaria, Guimaraes and Davis (1995) was used to identify and interpret factors which were: each item should load 0.50 or greater on one factor and 0.35 or lower on the other factors. I found that one item in the role endorsement construct was a bit low and had one cross loading. Yet, the cross loading was greater than .2 and I retained the item as I moved into the confirmatory factor analysis (CFA).

After eliminating one item (role endorsement item 1), 27 items measured five factors---four reflective and one formative. Table 3 shows the reliability of each of the four reflective factors. Table 4 provides the correlations between factors. The EFA results provided the foundation for further testing using PLS-Graph (v3.0, Build 1130, (Chin & Frye, 1998)).

**TABLE 4**  
**EFA Measurement Model: Reflective Constructs**

<b>Construct</b>	<b>Number of Items</b>	<b>Loadings</b>	<b>Cronbach's Alpha</b>
<b>Role Conflict</b>	4	-.736, -.652, -.591, -.541	.728
<b>Role Endorsement</b>	5	.866, .854, .721, .695, .464	.872
<b>Vision</b>	8	.876, .853, .818, .805, .689, .604, .590, .586	.912
<b>Compassion</b>	6	.773, .767, .656, .620, .518, .437	.841

**TABLE 5**  
**Correlations**

	Role Conflict	Role Endorsement	Vision	Compassion	Participation
Role Conflict	1				
Role Endorsement	-.414	1			
Vision	-.433	.644	1		
Compassion	-.389	.568	.642	1	
Participation	-.111	.357	.289	.291	1

*\* All correlations in the above table are significant*

Partial Least Squares (PLS), a structural equation modeling (SEM) technique, was used for testing the research model. PLS approach was preferred to other SEM approaches for this study because of its flexibility on distributional assumptions, its small sample size requirements, and its strength on complex predictive models (Chin & Newsted, 1999). PLS is a regression-based technique with roots in path analysis (Fornell & Larcker, 1981; Chin and Frye 1998); however, it has emerged as a powerful approach to studying causal models involving multiple constructs with multiple indicators. This approach facilitates testing of the measurement model and the structural model simultaneously. The measurement model revalidated the instrument and determined how each manifest variable's loaded on the construct that it measured. The structural model was estimated using the PLS algorithm with bootstrapping (1000 resamples).

## **Assessment of the Measurement Model**

To assess the psychometric properties of the latent constructs, a PLS measurement model was created. To assess convergent validity, I assessed the internal consistency reliability (ICR), the average variance extracted (AVE), and the item factor loadings for the reflective constructs.

*Estimation of internal consistency.* The survey employed multi-item scales to measure the reflective first-order factors. The measurement properties for the reflective constructs were examined by conducting confirmatory factor analyses using PLS. To assess the internal consistency of the reflective factors, I examined AVEs, coefficient alpha and composite reliability measures. For participation, I did not assess validity and reliability, since the very nature of formative measurement renders irrelevant traditional assessments of convergent validity and item reliability.

Accordingly, as seen in Table 5, coefficient alpha values ranged from 0.786 to 0.887. Likewise, the composite reliabilities for all reflective measures were high, ranging from 0.831 to 0.929. The recommended level for establishing a tolerable reliability is the 0.70 threshold. All reflective construct coefficients were above 0.831 showing strong reliability.

Tests were conducted to evaluate the convergent and discriminant validity and the reliability of reflective measures. Convergent validity of the constructs is assessed by examining the constructs factor loadings, composite scale reliability and average variance extracted (Chin & Frye, 1998; Fornell & Larcker, 1981). Loadings in excess of 0.70 on their respective factors are interpreted to indicate convergent validity (Straub, Boudreau, & Gefen, 2004). A second indicator of convergence was also employed. Here, a value

above 0.50 for the average variance extracted (AVE) for each construct is assumed to indicate sufficient convergence. As seen in Table 5, results indicate that both of these conditions have been met. Discriminant validity is demonstrated when the square root of the AVE is greater than the correlations between constructs (Bollen, 1989). Note that although two items within the participation construct were found to be not significant (PART 3 and PART 4), we retained those items, as removal would alter the nature of that formative construct.

The square root of AVEs ranged from .553 to .663 for reflective constructs. For a second test of discriminant validity, individual items may be assumed to possess sufficient discriminant validity if they load higher on their own respective construct than on any other latent variable (Gefen, Straub, & Boudreau, 2000; Straub et al., 2004). This was true for all items. Based on both tests, the measures possess sufficient discriminant validity. Consequently, evidence for internal consistency and the scales reliability were provided by these results.

**TABLE 6**  
**PLS-CFA Measurement Model Results**

Construct	Loadings or Weight	Standard Error	t-statistic	Composite Reliability	Average Variance Extracted
<b>Role Conflict</b>				.831	.553
RC1	.8103	.0238	15.4711		
RC2	.8082	.0276	14.451		
RC3	.6396	.0302	7.979		
RC4	.7028	.0282	11.35		
<b>Role Endorsement</b>				.907	.663
RE2	.6799	.015	13.871		
RE3	.8816	.0089	29.3311		
RE4	.7718	.0103	20.4912		
RE5	.8897	.0090	31.4706		
RE6	.8295	.0096	26.5433		
<b>Vision</b>				.929	.621
VIS1	.7027	.0093	15.5335		
VIS2	.7028	.0082	16.5069		
VIS3	.7931	.0073	24.6386		
VIS4	.8114	.0068	23.5194		
VIS5	.7949	.0084	19.6612		
VIS6	.8413	.0064	26.8095		
VIS7	.8111	.0081	19.0003		
VIS8	.8346	.0075	21.0442		
<b>Compassion</b>				.884	.562
COMP1	.7927	.0124	18.4857		
COMP2	.7182	.0153	13.8153		
COMP3	.7049	.0139	15.7524		
COMP4	.7980	.0131	17.8802		
COMP5	.6577	.0190	9.0571		
COMP6	.8127	.0125	20.8525		
<b>Participation</b>					
PART1	.5394	.1217	4.4338		
PART2	.6406	.1264	5.0676		
PART3	.0786	.1233	.6375		
PART4	.0713	.1094	.6518		

Note: Participation is a formative construct and values shown represent item weights.

\*  $p < 0.05$ . \*\*  $p < 0.01$ . \*\*\*  $p < 0.001$ .

### Dimensionality and Convergent and Discriminant Validity

It was expected that items belonging to the same scale would have factor loadings exceeding 0.70 on this common factor. As indicated by the results in Table 6, although all the loadings were statistically significant based on *t*-statistics generated from running a bootstrap on the data, and none were below the acceptable threshold (0.60). Moreover, the average variance explained (AVE) was above 0.50 and considered acceptable.

As a result of the construction of a formative variable, “conventional procedures used to assess the validity and reliability of scales composed of reflective indicators (e.g., factor analysis and assessment of internal consistency) are not appropriate for composite variables (i.e., indexes) with formative indicators” (Diamantopoulos & Winklhofer, 2001). One of those measures that is not appropriate for formative constructs is AVE, which is the measure of the amount of variance that indicators provide to the latent variable, relative to the measurement error. For those reflective constructs, AVE should be .50 or greater, which explains 50% or more of the variance (Chin, 2010). The composite reliability (CR) for each construct is found in Table 5 (above). The CR for each reflective construct exceeds the acceptable threshold (>.0.70) and the average variance extracted (AVE) confirms the reliability of the indicators and demonstrates convergent validity. CR is also not acceptable for formative constructs.

### **Common Method Bias**

I tested for common method bias in the data, as the survey item responses were all self-reported. In order to test for common method bias, I first applied Harman’s one-factor test, including all items in the model in a principle components factor analysis (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). If one factor accounts for the majority of the covariance, common method bias is present. Based upon Eigenvalues greater than 1, 5 factors emerged, which explained 48% of the variance, therefore it appears that there is no common method bias. The correlations matrix was then examined, as common method bias can also be assessed from these values. Correlations above 0.90 are indicative of a common method bias problem (Pavlou, Liang, & Xue, 2007). No

correlations were found to be near the .90 level, which suggests that there is no evidence of common method bias.

### **Structural Model**

The test of the structural model includes estimating the path coefficients and the  $R^2$  values. The path coefficients, which indicate the strength and direction of the relationships among the variables, should be significant and directionally consistent with expectations. The  $R^2$ , which represents the proportion of variance in the endogenous variables that can be explained by the other variables, demonstrates the predictive power of the model. Collectively,  $R^2$  and path coefficients indicate how well the model fits the empirical data. To assess whether the direct effects were significant, bootstrap resampling was performed. Bootstrapping (677 resamples) was used to create subsamples from which the t-values associated with various inner and outer model paths in the model were obtained (Chin, 2000).

A series of tests were run to investigate the predictive power of the structural model (Chin & Frye, 1998). I tested the model for the change in  $R^2$ , to determine the substantive impact of each independent variable upon the dependent variables. To do so, I calculated the  $f^2$  in the following manner:

$$f^2 = \frac{R^2_{included} - R^2_{excluded}}{1 - R^2_{included}}$$

$R^2$  represents the amount of variance in the construct that is explained by the model. Cohen (1988) recommends values of 0.02, 0.15 and 0.35 to denote small, medium or large effects at the structural level. I used the causal four-steps method developed by Baron and Kenny (1986) to test for mediation effects, presented in Table 6,

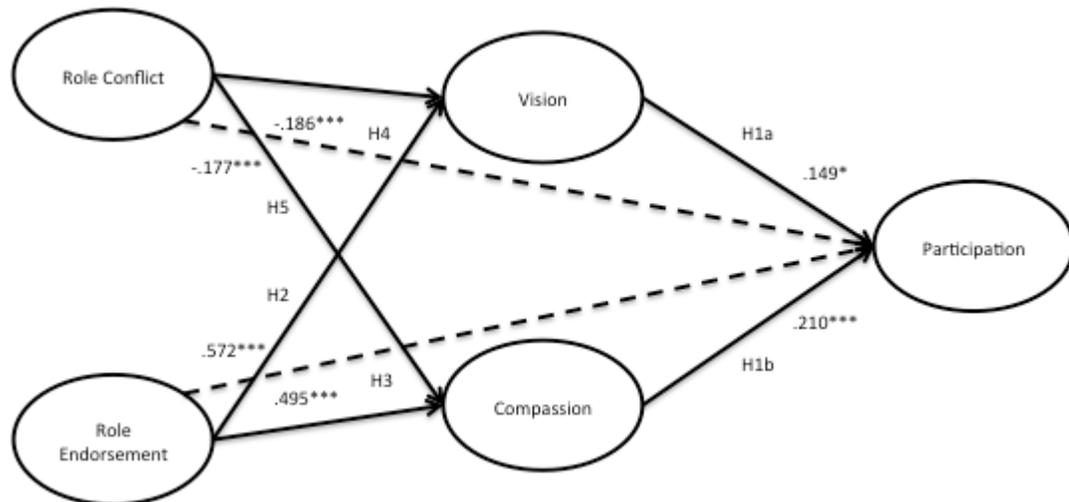
below. Analysis of the structural model revealed four mediated relationships where a significant independent variable (IV) – dependent variable (DV) relationship was mediated.

### Findings

See Table 7 for the effect size of each relationship. Although the amount of variance explained by Participation is low ( $R^2 = .107$ ), it should be noted that this is an exploratory model. All other effects are within the appropriate range (Cohen, 1998). I tested the hypothesized structural model in PLS and the results showed two negative and four positive relationships between constructs.

The final model, shown in Figure 6, shows the relationships and significant paths between constructs, as well as the  $R^2$  values for each construct. The details of the structural model can be found in the Appendix.

**FIGURE 6**  
**Structural Model**



Dashed lines indicate direct relationships.  
\*  $p < 0.05$ . \*\*  $p < 0.01$ . \*\*\*  $p < 0.001$ .

**TABLE 7**  
**Path Analysis, Hypotheses and Effect Sizes**

<b>Hypothesized Relationship</b>	<b>R2</b>	<b>t-statistic</b>	<b>f<sup>2</sup></b>	<b>Strength</b>
H1a: Vision → Participation	.107	2.2769	.0134	No Effect
H1b: Compassion → Participation	.107	3.444	.0269	Small Effect
H2: Role Endorsement → Vision	.448	19.0748	.4710	Large Effect
H3: Role Endorsement → Compassion	.348	14.4921	.3037	Medium Effect
H4: Role Conflict → Vision	.448	6.498	.0598	Small Effect
H5: Role Conflict → Compassion	.348	4.7257	.0414	Small Effect

The results of testing the structural model provide evidence to **support H1a** and **H1b**, vision ( $\beta = 0.149^*$ ) and compassion ( $\beta = 0.210^{***}$ ), have a significant and positive relationship with participation. Vision plays a mediating role in the relationship of role conflict and role endorsement to participation. The direct effect of role endorsement to participation was significant, as was the indirect effect via both vision and compassion. Moreover, role endorsement showed a significant direct effect with the vision ( $\beta = 0.572^{***}$ ) and compassion ( $\beta = 0.495^{***}$ ) mediators, and both vision ( $\beta = 0.149^*$ ) and compassion ( $\beta = .149^*$ ) had significant relationships with participation. These findings are therefore consistent with the hypotheses of partially mediated effects, therefore **H2** and **H3** are both **supported**.

I hypothesized that the role conflict on participation would be partially mediated by both vision and compassion. Instead, I found that there was not a significant relationship from role conflict to participation, and role conflict showed a significant negative direct effect with the vision ( $\beta = -0.186^{***}$ ) and compassion ( $\beta = -0.177^{***}$ ) mediators, and as previously stated, both vision ( $\beta = 0.149^*$ ) and compassion ( $\beta = 0.149^*$ ) had significant relationships with participation. In summary, the results of indicate that role conflict has a direct effect on the mediators of vision and compassion, and both of

these mediators has a significant relationship with participation, and that the direct effect of role conflict to participation is no longer significant. These results are consistent with the hypothesis of a full mediation; therefore **H4** and **H5** are **supported**.

**TABLE 8**  
**Mediation Results of Compassion and Vision**

Mediated Path	Path Coefficient	T-Statistic	StdErr	Effect
H2: RE → P	.364***	8.2065	.0452	Partial Mediation
RE → VI	.572***	19.2890	.0297	
VI → P	.149*	2.2789	.0654	
H3: RE → P	.364***	8.2065	.0452	Partial Mediation
RE → COMP	.495***	14.3085	.0346	
COMP → P	.210***	3.5177	.0597	
H4: RC → P	.033 NS	.2773	.0433	Full Mediation
RC → VI	-.186***	6.2113	.0382	
VI → P	.149*	2.2789	.0654	
H5: RC → P	.033 NS	.2773	.0433	Full Mediation
RC → COMP	-.177***	4.6366	.0382	
COMP → P	.210***	3.5177	.0597	

\*  $p < 0.05$ . \*\*  $p < 0.01$ . \*\*\*  $p < 0.001$ .

**TABLE 9**  
**Results**

Hypothesis	Result
<i>H1: Vision (H1a) and compassion (H1b) have a positive effect upon an increased level of participation in role-related activities.</i>	H1a: Supported H1b: Supported
<i>H2: Vision partially mediates the positive relationship of role endorsement upon participation, such that the effect is stronger.</i>	H2: Supported
<i>H3: Compassion partially mediates the positive relationship of role endorsement upon participation, such that the effect is stronger.</i>	H3: Supported
<i>H4: Vision partially and positively mediates the negative relationship of role conflict upon participation.</i>	H4: Vision fully mediates the relationship between role conflict and participation
<i>H5: Compassion partially mediates the negative relationship of role conflict upon participation.</i>	H5: Compassion fully mediates the relationship between role conflict and participation

## Discussion

Insights were applied from positive psychology, social psychology and management literature, to demonstrate that role factors, such as role conflict and role

endorsement, are an important consideration in participation by physician leaders. Specifically, I found support that role conflict negatively affects participation; while role endorsement has a positive relationship with participation.

These results also show support for the argument that positivity, in this instance vision and compassion, mediate the relationship of role factors and participation. The largest effect found in the model was the impact of role endorsement to vision, which I believe speaks to the importance of an individual being endorsed in their role by both their peers and organization, in addition to their own certainty in their authority. This supports the work of the first inquiry into this subject, which was informed by DeRue and Ashford (2010), and framed the argument on the importance of relational and organizational endorsement. The findings therefore show that including vision and compassion into the physician leadership framework, there is a noteworthy impact upon participation, which may precede effectiveness.

The findings confirm the importance of the leader-member relationship, as it relates to the importance of the endorsement of the leadership role by peers. Specifically, I found that the mediators of vision and compassion partially mediate the relationship of role endorsement to participation.

In testing the mediated relationship of role conflict and participation, surprisingly, I found full mediation in that that the association was completely accounted for by vision and compassion (James, Mulaik, & Brett, 2006). This finding reinforces the importance of positivity as a mediating factor for physician leaders. Boyatzis suggests that leadership development occurs in an iterative cycle of “discontinuities,” which results in desired change (2008b). This process is described by his intentional change theory (ICT)

(Boyatzis, 2008). The shared vision of the ideal self, in this case the embracement of the secondary identity of leader by a physician, their peers and the organization in which they function, produces the desired change. These changes can occur not only at the individual level, but also at the didactic, group or organizational level, etc. (Boyatzis, 2008), therefore the opportunity exists for the healthcare organization to produce desired change that will result in the a shared vision at the group level. This shared vision is what allows for an increase in participation, and potentially effectiveness, and offers a mediating role in positively impacting the relationship of role factors, both positive and negative, to outcomes.

In the case of role conflict, these findings demonstrate the significant role that vision and compassion play within the model, as these mediating factors fully explain the relationship to participation. These results illuminate the importance of positivity in buffering role conflict, with the hope of increasing participation and potentially effectiveness. It was unexpected, however, to not find any differences in the model when testing for part time physician leaders versus full time physician leaders. Based upon my previous research, I anticipated that there would be a difference in the results involving role conflict, as my previous results suggested that there was a distinct difference between how part and full time leaders viewed their role as it pertains to conflict. This unexpected finding could be as a result of the sample being from an executive leadership association, whose members are all interested in physician leadership as a matter of inclusion. Merely the interest in learning more about and developing leadership skills could explain these results.

It is also of note that role endorsement was found to be an important factor in this study, as this confirms the findings of my previous work on physician leadership. DeRue and Ashford (2010) propositioned that physician leadership is a mutual influence process among individuals, expressly a socially constructed and reciprocal relationship between leaders and followers that is co-created and mutually reinforced. I found support for this concept in my previous work, and the current findings reinforce the findings from that study.

Further research is needed to explore additional mediating factors, which may explain the relationship of role factors to participation.

### **Limitations**

A potential limitation to this study, is one that I also feel intensifies the results- the fact that the sample is comprised of both part and full time physician leaders who have *self-selected* to join the ACPE due to their interest in bettering themselves as leaders. As such, I suggest that these results are even more noteworthy for healthcare leaders to consider, as even those physicians who are committed to leadership still may struggle with role factors that impact their participation. Although one may find issue with whether or not the results are representative of the entire physician leader population, I feel that the significance of the relationships in the model speak to the importance of role related factors and positivity for participation of physician leaders. The sample also is diverse with regard to roles and organization size and type, which I believe offers a more robust interpretation of the findings; however, a more focused study would have the ability to better analyze the impact of the organizational climate across the sample.

While I took great strides to protect the results from common methods bias, no statistical test can guarantee such bias does not exist within the results (Podsakoff et al., 2003). If possible, I would have preferred to have an evenly distributed sample by role, which may have led to further insight. Finally, the dependent variable, participation, could have been measured on a different scale rather a psychometric scale, which may have affected the results.

### **Implications for Practice and Future Research**

As the first study to empirically examine the impact of relational and organizational endorsement of role, this study offers previously undiscovered insight as to the impact role perception has upon physician leaders, which should be of importance to healthcare leaders concerned with physician leadership.

Future research should continue to examine the impact of role endorsement upon not only organizational participation, but also effectiveness. As well, although no significant differences were found between those in part and full time leadership roles within this study, I suggest that this is an aspect for further examination, especially with regard to individuals from a single organization.

Based upon my previous research, I had anticipated that there would be a difference in the results involving role conflict for part and full time physician leaders, however there were no significant differences found related to part or full time status. I therefore would recommend a more detailed exploration of how part or full time status may be impacted by organizational climate.

In testing this model, I was only interested in examining the linear relationships associated with the intervening effects. However, moderator relationships could be

incorporated into future explorations involving these constructs.

It is my hope that healthcare leaders will embrace the importance of vision and compassion in moving physician leadership forward and to help them overcome any role-related issues that may impact their professional participation and participation within the organization.

## **CHAPTER IV: THE MEDIATING ROLE OF POSITIVE ORGANIZATIONAL CLIMATE ON RELATIONAL ROLE ACCEPTANCE BY PHYSICIAN LEADERS (STUDY 3)**

### **Preface**

As the final study in this series of inquiries into physician leadership, this study offers further clarification of the findings from both the first (Chapter 2) and second studies (Chapter 3), previously presented.

### **Introduction**

Physicians have long held leadership roles in healthcare organizations, and despite the many changes in healthcare, physicians as leaders are key to the success of these organizations, perhaps more so than ever before (Weiner et al., 1997). In spite of the importance of physicians as leaders, there is a lack of emphasis on leadership skills for physicians, beginning in medical school (Blumenthal, Bernard, Bohnen, & Bohmer, 2012) and continuing into their professionalization as a clinician.

While physicians have held leadership roles since the beginning of organized medicine, we still do not have a clear understanding of the nature of physician leadership. As long ago as 1948, Stogdill informed us that leadership was associated with those initiative and willingness to assume responsibility (Stogdill, 1948). Yet, physicians are lauded for their technical expertise, and often do not place value upon their role as a leader. Therefore, what are the factors that are necessary for a physician to find value in participating in leadership roles?

My previous work has informed of the importance of a leadership identity and provided a glimpse into the factors that may be important to our understanding of physician leadership. Through this inquiry, I seek to further clarify the factors that

increase acceptance of a leadership identity and influence a physician leader to participate at a higher level. To this end, I offer a model, which theorizes that positive organizational climate mediates the relationship of social competencies upon role endorsement and professional participation. I seek to validate these hypotheses based upon responses from 677 physician members of the American College of Physician Executives (ACPE).

This paper contributes to our knowledge on physician leadership from both a theoretical and practical perspective. Building upon previous knowledge, I find support in the importance of positive psychological climate upon the construction of a leadership identity, as well as participation. This may be a basis for creation of physician leadership theory, as well as inform healthcare administrators as to the importance of both climate and identity and role issues involved with physician leadership.

This paper begins with a review of the literature on physician leadership, social competencies, identity and role, psychological climate and organizational participation. Building upon these theories, I develop a theoretical framework and an associated set of hypotheses. I then report the research methodology and sample, analyze the results, and discuss the findings. Finally, I conclude with a discussion of the implications to research and practice.

### **Theoretical Foundation**

The purpose of this review is to identify the existing literature, which supports the model of physician leadership explored in the next section. Specifically, I will review physician leadership, and explore the social competencies of physician leaders explained by theories on emotional intelligence. Next, I will define positive psychological climate

and role endorsement through the review of theories on affect, climate and social identity. Finally, I will outline the dependent measure of organizational citizenship behavior.

### **Physician Leadership**

Thousands of empirical investigations have been completed in the last hundred years, which have sought to better understand and define leadership. And while many theories have emerged as to what a leader is and what constitutes an effective leader, none have defined the nature of physician leadership.

Physician leadership is a unique domain of inquiry, and has been characterized as being plagued by a “lack of respect for physician leadership” has been noted (O'Connor & Fiol, 2006). This is in contrast to studies of traditional leadership theory. The notion that physicians may not value leadership may be the most important factor in differentiating physician leadership from mainstream leadership theory. If this is the case, to increase the meaning of leadership to physicians, it must be done through a tie-in to existing values, which is unique to those individuals in a professional services environment.

Physician leaders often hold part time and temporary leadership roles, and while they may have a lack of respect for physician leadership, it is an even greater consideration that they may lack respect for their own role as a physician leader (Chaudry et al., 2008; O'Connor & Fiol, 2006). This leads to the question explored throughout this dissertation: how then do we understand the nature of physician leadership?

Despite physicians holding leadership roles since the beginning of organized medicine, healthcare organizations often have non-physician leaders at the helm. When physicians assume leadership roles, they are then entering into a different social identity

group- with a need to personally accept their new leadership role, and therefore a second identity of leader. The recognition of this leadership role is not solely based upon the physicians' own understanding and acceptance, but is a socially interactive process, one that involves integration of three levels.

And while a formal leadership role may not be a 'desired' role for a physician, all physicians are leaders within their own clinical practice (Chaudry et al., 2008). From leading a practice to taking the leadership role in a surgical environment, all physicians must assume leadership, even if it is not in the assignment of a formal role. Therefore physician leadership effectiveness is of unquestioning importance within healthcare organizations.

"Leadership is engaging people to make progress on the adaptive problems they face" (Heifetz, 1994). Rather than providing answers to problems, adaptive leadership theory maintains that a leader should assist followers in solving problems through empowerment and motivation. While it is generally understood that this may be in contrast with what a surgeon may deem appropriate within a surgical environment (as autonomy, highly technical expertise and quick thinking is required) this same individual may come to value this type of leadership within his/her own practice when it comes to issues of organizational change or culture. Heifetz notes that there are two types of problems for leaders- technical and adaptive (Heifetz, Grashow, & Linsky, 2009).

A physician may choose to rely upon their training and education for technical challenges, such as those in their clinical practice; however, understanding the difference may provide them with the opportunity to employ adaptive leadership practices to the issues that arise involving innovation and quality improvements. Physician leadership

needs to be based upon the belief that physician leadership roles “can be excellent leverage points for improvement of health care quality” (Reinertsen, 1998).

The way that one perceives him or herself and the individual’s understanding of their self-identity has a significant impact upon the way a person feels, thinks and ultimately behaves. If a person relies upon their identity to direct their behavior, then this is an important consideration in his or her understanding of him or herself as a leader. This includes the understanding of individual competencies, as well as those areas where there may be gaps, and utilizing those competencies in the construction of a self-concept.

### **Social Intelligence Competencies**

The study of intelligences has been an area of interest for the past few decades and continues to be a dynamic and expansive field. After several decades of focus on general intelligence, Gardner debuted his theory of multiple intelligences (1985). Subsequently, several theories began to emerge on emotional intelligence (Bar-On, 2006; Boyatzis, Goleman, & Rhee, 1999; Salovey & Mayer, 1990).

Boyatzis (2009) has defined emotional intelligence (EI) competencies as a self-awareness cluster of competencies that relate to one’s own emotions and an understanding of personal preferences and states of being, and a self-management cluster that refers to one’s ability to maintain control over his/her emotions, adapt to change, continually work toward personal improvement and maintain a positive outlook. Social Intelligence (SI) is comprised of two clusters of competencies. The first is social awareness, which refers to an understanding of others’ emotions, evidenced through an understanding of a group’s emotions and interpersonal relationships (Boyatzis, 2009). The second cluster of social intelligence is relationship management, which relates to

“skill or adeptness at inducing desirable responses in others” and can be associated with coaching and mentoring, inspirational leadership, influence, conflict management and teamwork abilities (Boyatzis, 2009:754).

Both practitioners and scholars continually seek to explain performance in all areas of leadership, and theories of emotional intelligence were born of the realization that cognitive intelligence did not explain the defining difference between average and superior leaders. Wechsler made an early observation that “... intellectual factors (whether by the general one "g" or more specific ones such as verbal ability, abstract reasoning, arithmetical and other abilities which have been isolated by tetrad and multi-factorial analyses) do not, in my opinion, constitute everything which enters into intelligent behavior;” (1941:101), but also additional, non-intellectual factors that “include all affective and conative [natural tendency or directed effort] abilities which in any way enter into global behavior” (Wechsler, 1941:103).

Boyatzis (1982, 2008, 2009) suggests a combination of competencies from five clusters may be responsible for leadership success: cognitive, and the emotional intelligence clusters of (EI) self-awareness, (EI) self-management (SI) social awareness, and (SI) relationship management competencies. Prior research by Boyatzis (1982), Spencer and Spencer (1993), Goleman (1998) and others, have established that beyond selected cognitive intelligence competencies, emotional and social competencies are the incremental difference that increase leadership effectiveness.

The American College of Preventive Medicine (ACPM), has even offered “a working definition of *competency*, [as] the ability to perform a complex task or function,” and identified “organizational management” as one of the essential physician-leadership

competencies (Lane & Ross, 1998: 231, 234). Several other leadership specific competencies have been cited as important to physician leaders, including the “ability to demonstrate motivation,” “consensus building,” “conflict resolution,” “team building,” “creation of a vision,” “development of a shared strategy,” and the “coordination of parties and resources and communication with stakeholders” (Lane & Ross, 1998: 234).

While Boyatzis and Goleman (1999) have taken a behavioral approach to competency assessment, there are several other theories of emotional intelligence and some take a slightly different approach. Mayer et al. argue that emotional intelligence is a set of conceptually related psychological processes and use an abilities-based measure called the MSCEIT (Mayer, Salovey, Caruso, & Sitarenios, 2003) to assess the performance of emotional processing. Another model, the Bar-On model of emotional-social intelligence, provides the theoretical basis for the EQ-i, a measure which began as a self-report model and developed into a behavioral model to assess “a cross-section of interrelated emotional and social competencies, skills and facilitators that determine how effectively we understand and express ourselves, understand others and relate with them, and cope with daily demands” (Bar-On, 2006). In spite of variations in the specifics of the components and different approaches to measurement, one view of emotional intelligence remains constant- that the emotional and social aspects of intelligence can be the defining difference in performance.

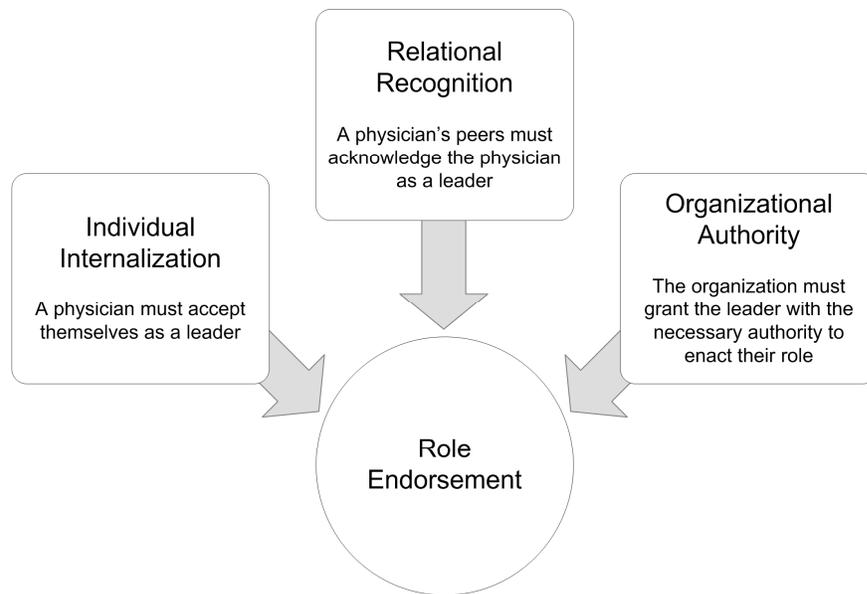
### **Identity and Role**

*Social identity theory-development of a leadership identity.* Social identity is based upon the individual’s perception of themselves a member of a group of persons (Ashforth & Mael, 1989), which is formed from the categorization of members and

influenced by the distinction and prestige of the identity group. Tajfel originated the theory of social identity and defined it as "the individual's knowledge that he belongs to certain social groups together with some emotional and value significance to him of this group membership" (Tajfel, 1972: 292). Hogg has also noted that, "if leadership is indeed a structural feature of in-groups, then leaders and followers are interdependent roles embedded within a social system bounded by common group or category membership" (2001: 186).

"Leaders exist only in relation to the people whom they lead" (Reinertsen, 1998: 837); therefore leaders are born of the social environment and processes in which they exist. An important consideration of the leadership development process is the process of self-categorization and depersonalization (Hogg, 2001), as well as the individual internalization of the leadership identity, relational recognition by followers, and collective endorsement by peers (DeRue & Ashford, 2010).

**FIGURE 7**  
**Individual, Relational and Organizational Construction of Identity**



This theory is supported by my previous inquiries into physician leadership where I found that the creation of a secondary leadership identity for a physician, embedded in the primary identity of clinician, involves the individual acceptance of their leadership identity, the relational recognition of that identity and also the organizational authority to enact their role.

Individuals define their identity through membership within various groups, such as work groups, organizations, and as members of a profession (Ashforth & Mael, 1989; Tajfel & Turner, 1985), and social settings determine the characteristics of people likely to be in that environment (Goffman, 1963). Further, the individual's social identification is dependent upon perception of in and out-group status, thereby exacerbating the impact of professionalization into an esteemed profession and the impact upon the individual in their view of their own social identity group, as well as other groups that they interact with on a professional basis. The physicians' social identification process places them and others into categories of classification within their environment and separates themselves as physicians from others in the organization- others who they may need to collaborate with when they move into leadership roles.

The process of professionalization occurs through the several years of education that a physician completes, as well as the ongoing socialization into the profession (Hall, 2005). Professionals go through a process of self-categorization, which accentuates the similarities of individuals belonging to the same category, and the differences of those in different categories (Hogg & Turner, 1985). Through this process, individuals are depersonalized and construed as in-group and out-group members (Hogg et al., 1995). As physicians adopt a professional identity, depersonalization occurs; however, this is *not*

*a negation* of identity, instead the individual changes the perception of his/her identity to that of the group he/she identifies with (Hogg et al., 1995).

Through this process, physicians become entrenched in their identity as a physician. They become so rooted in this professional identity that physicians often hold on to their primary identity, even when they accept a leadership role (Montgomery, 2001). The significance of their identity is born from their expertise, and this focus on their own valuation of their identity is further reinforced through their professional group.

While social identity theory does not specifically address ‘roles,’ it does attempt “to explain individuals’ role-related behaviors” (Hogg et al., 1995). Individuals acquire meaning and clarify their own role(s), as well as the roles of others through a series of reciprocal social interactions (Burke & Reitzes, 1991). Physicians assume their own role identity as they interact with other physicians, nurses, administrators and professionals within the organization, and through this interactive process they develop self-meaning and definition. The role of physician then creates a norm for behavior, and in turn “the self as a structure of role-identities... operate(s) as a social force, affecting the structure of society by affecting behavior in important ways” (Callero, 1985: 203, citing Rosenberg, 1981).

Identity theory also informs us that role-identities are hierarchically positioned, thus having differing effects upon behavior (Callero, 1985; Hogg et al., 1995). This phenomenon, identified as identity salience (Stryker, 1968) may affect physician behavior when a second role identity of leader is added to a clinician’s behavioral repertoire. While physicians often assume part or full time roles as department chairs, committee members, directors, etc., the primary identity as clinician remains in the

forefront. I suggest that the intersection of how an individual feels about their own role, the relational validation that they receive from their peers, and the organizational endorsement they receive in the way of supporting them in their role are the components of role endorsement. With endorsement at all three levels, only then can an individual adopt a secondary identity.

This is predicated on the proposal by DeRue and Ashford (2010) that, “if a person claims leadership in a setting but others do not reinforce that claim with supportive grants...leadership identity construction (is) insufficient for a leader-follower relationship to emerge.” My initial (qualitative) inquiry examined physician leaders who held part time leadership roles, as well as full time clinical roles and found that peers relate to physician managers as “tribe” members, and often not as leaders (Quinn & Perelli, 2011), and these findings support the importance of role endorsement.

However, the self is developed not only by an understanding of ourselves and formed by our social interactions, but also is shaped by the environment in which we operate.

### **Positive Psychological Climate**

Several researchers have proposed sets of perceptually based attributes that describe psychological climate, including how the environment is perceived and understood (Cambell et al., 1970; Insel & Moos, 1974; James & James, 1989; Locke, 1976), which James and Jones (1974) specifically define as the meaning that people attribute to their jobs, co-workers, leaders, and performance expectations, opportunities for promotion.

James et al. (2008: 10) suggest that the fundamental aspect of climate is “that perceptions of work environments appear to factor into domains interpretable in terms of personal values,” which they base upon a review of exploratory factor analyses of psychological climate variables and the congruence with Locke’s factors of values and psychological climate. James and James (1989) conclusion is that individuals respond to environmental factors based upon their emotional relevance to their own happiness, “and the key substantive concern of perception is the degree to which individuals perceive themselves as being personally benefited as opposed to being personally harmed (hindered) by their presence in the environment (James & James, 1989: 748).

In an effort to understand any behavior, it is important to take into consideration the influential factors; therefore an understanding of psychological climate is imperative as the individual’s perceptions and valuations of the environment are what mediate the individual’s behavioral responses, not the environment itself (James & Jones, 1974). Within this study, I include conceptualizations of psychological climate as measured and analyzed at an *individual* level, not those collected and constructed as an aggregate to measure organizational climate. As well, when psychological climate data is collected from individuals who work in an environment with great diversity the perceptions can also be assumed to be diverse, which is a limitation upon the use of aggregating climate scores (Jones & James, 1979). This is an important aspect of our understanding of psychological climate, as it is the subjective and individual nature of the measure that is important as a mediating factor. It is not the measurement of the climate that is important within this inquiry, rather it is the *measurement of meaning* by the individual, and further

the affective aspects such as hope, compassion and positive overall mood, rather than the cognitive concepts.

Positive emotion has been shown to increase immune function (O'Leary, 1990), faster recovery from surgery (Scheier & Carver, 1993). The stimulation of the PSNS has even been credited as a factor in the growth of neurogenesis (Stewart, Look, Kanki, & Henion, 2004). Keyes, Fredrickson and Park note, "positive emotions broaden people's thought and action repertoires" (2012), which I suggest has a positive impact upon the social construction of a secondary physician leadership identity, or what I call 'role endorsement' within this study.

I utilize Boyatzis' P/NEA survey as a tool to analyze climate. Boyatzis suggests that Positive Emotional Attractors (PEA) and Negative Emotional Attractors (NEA) are critical in affecting behavior through impact at a cognitive, emotional, social and physiological basis by influencing an individual on a cognitive, emotional, social and physiological basis (Boyatzis, 2008). Boyatzis describes positive and negative emotional attractors as destabilizing forces that create psycho-physiological states that drive the change process (Boyatzis, 2008). Boyatzis proposes that both the positive and negative emotional attractors are important to the body's neuro-endocrine, cognitive, emotional and perceptual systems, and suggests that the critical ratio of positive to negative is of vital importance in an individual being open to new experiences.

In an opposite reaction, the stimulation of the Negative Emotional Attractor (NEA), leads to a decrease in cognitive function, perception and immune function (Boyatzis, 2006). Within Boyatzis' P/NEA Scale, there are three sub-constructs that measure vision, compassion and overall positive mood, which I offer as a measure of

positive psychological climate. An individual fluctuates between the two states of the PEA and NEA, with both present at all times.

### **Organizational Citizenship Behaviors/Participation**

*Extra-role behaviors.* Organizational citizenship behaviors are often equated with extra-role behaviors, outside of the reward mechanism within an organization (Podsakoff, MacKenzie, & Organ, 2006), and contribute to effectiveness (Turnipseed & Rassuli, 2005). It has been suggested that organizational citizenship behaviors may be the resulting affect from emotional intelligence (Turnipseed & Vandewaa, 2012), and Turnipseed and Vandewaa (2012) did find a relationship between emotional intelligence and organizational citizenship behaviors. Further, evidence has been found of a direct correlation between extra-role behaviors and employee performance (Van Dyne & LePine, 1998). Therefore, it is important to understand the antecedents of organizational citizenship behaviors, or the dimension that this study focuses on, participation. For the purpose of this study, participation is understood as participation in striving to improve performance, rather than a general measure of participation.

### **Model Development and Hypotheses**

In this section I will develop a model with associated hypotheses, which guide us in our understanding of the antecedent of social intelligence, as well as the mediating affects of both positive psychological climate and role endorsement upon professional participation.

I previously tested role endorsement in the initial quantitative study (Chapter 3), and found strong evidence that this was an important construct in understanding physician leadership. Because of the fleeting nature of many physician leadership roles,

as well as the strong identity physicians adopt when they are indoctrinated into the profession, self-identity is a vital component in how a physician leader understands and enacts their leadership role.

Having previously tested vision and compassion sub-constructs of the P/NEA measure in my previous inquiry, I believe that positive psychological climate will also be an important mediator within this model, and therefore propose the following hypotheses.

*Hypothesis 1. Role endorsement partially and positively mediates the relationship between social competencies and professional participation.*

*Hypothesis 2. Role endorsement partially and positively mediates the effect of positive psychological climate on participation.*

Based upon both the initial qualitative and quantitative explorations, I found that two sub-constructs of the P/NEA were important mediators, which I now explore in this model as a complete construct, as I believe the P/NEA measure is representative of psychological climate. Because I found significance in this mediating relationship between role endorsement and participation, I conjecture that positive psychological climate will mediate the antecedents in this model not only to participation, but also to role endorsement.

*Hypothesis 3. Positive psychological climate partially and positively mediates the effect of social competencies on role endorsement,*

*Hypothesis 4. Positive psychological climate partially and positively mediates the relationship between social competencies and participation.*

The hypothesized model, shown in figure 2, is based on the results of my two previous inquiries into physician leadership. This study extends previous work to gain a better understanding of what factors influence participation, and introduces social competencies as an antecedent. I believe that this model offers more of a causal

explanation for physician leadership participation than previously explored.

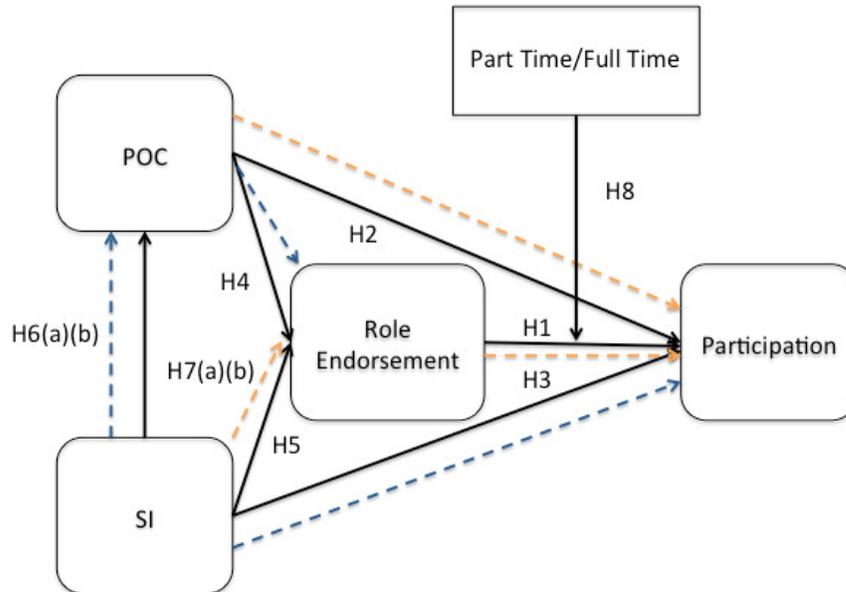
Perceived psychological climate has been found to be related to job involvement, as well as performance (Brown & Leigh 1996), and while I found a small effect from one sub-construct in my last inquiry, I expected to find a stronger relationship. Because the last model only employed the use of two of the three sub-constructs of the P/NEA, I am now interested in exploring the impact of the entire measure upon participation, which is hypothesized to have a significant effect on participation.

*Hypothesis 5. A positive psychological climate will increase professional participation.*

Finally, although my initial qualitative inquiry found a lack of role endorsement in part time versus full time physicians, in this study the following hypothesis is tested.

*Hypothesis 6. Part time physician leaders have less role endorsement, therefore a lower level of participation than full time leaders.*

**FIGURE 8**  
**Hypothesized Model**



## **Research Methods**

To explore the mediating effect of positive psychological climate and role endorsement upon physician leaders, I conducted a survey-based study to validate the hypotheses. I employed a psychometric survey methodology that maps individual responses to the underlying concepts within the model. In an effort to capture representative data on the nature of physician in leadership, I surveyed the membership of the American College of Physician Executives (ACPE).

### **Measurement of Research Variables**

To ascertain and measure the relevant dimensions of the model, this process proceeded in four stages: development of the survey instrument, development of measurement scales, pretesting to assess validities of the survey instrument and data collection from a sample of physicians with membership in the American College of Physician Executives (ACPE), the largest health care organization for physician executives in the US.

Construct items were based upon previously validated measures where possible. Original items were developed based on a review of relevant literature and using a procedure consistent with prior studies (Churchill, 1979; Koufteros, 1999). All first-order constructs were specified with reflective indicators, except for participation. Participation is defined by five formative indicators adapted from the work of Van Dyne et al.'s measure of organizational citizenship behavior (1994). The final model examined three of these indicators. The social intelligence construct also contains formative indicators, as it is a reflective first order, formative second order construct.

## **Construct Development**

Although most scale items were adapted from those in the existing literature with slight modifications to reflect the focus of this inquiry, a new scale was developed to measure role endorsement.

***Independent variable: Social intelligence.*** Social intelligence is a second order formative construct with reflective first order dimensions of coaching and mentoring, empathy, influence, inspirational leadership, organizational awareness, and teamwork. This measure has been adapted from Boyatzis and Goleman's (2007) Emotional and Social Competency Inventory (ESCI). Only the social competency constructs were selected for inclusion.

**Mediating variables: Role endorsement and positive psychological climate.** Role endorsement was informed by my earlier work on physician leadership and adapted from DeRue and Ashford (2010). I developed six items to measure the claiming and granting of leadership from an individual perspective, within peer relationships, as well as from an organizational perspective.

To measure positive psychological climate, I employed Boyatzis' PNEA scale (2008), which includes three subscales: vision, compassion and overall positive mood. All 21 items were measured on a 5-point scale with "strongly agree" at the extreme positive end and "strongly disagree" at the opposite end of each scale.

**Dependent variable: Participation.** I adapted a multi-item construct of organizational citizenship behavior using participation as a major component; five items that measure participation, from the original 54 items in Van Dyne et al.'s measure for

organizational citizenship behavior (1994). These items were measured on a 5-point scale ranging from “1-strongly disagree” to “5-strongly agree.”

I suggest that this measure of participation is a measure of professional participation, which specifically considers extra-role behaviors and includes scale items such as: frequently makes innovative suggestions to coworkers; keeps well informed where opinion might benefit the organization. These may therefore be more representative of a measure of extra role behaviors in striving to improve performance.

*Controls.* Several controls were included, including role, tenure in role and in organization, age and gender. Rousseau and McLean Parks (1993) noted that employees who have long tenure in their organizations tend to have strong organizational ties, and it has been found that the confidence developed in a role leads to increased competence and feelings of organizational commitment (Salancik, 1977). Age and gender have also been used in numerous studies across disciplines to assess impact upon results, and these were included to ensure the accuracy of the data.

The multi-items for each of the constructs are summarized in Appendix F.

## **Sample**

The population sampled was the membership of the American College of Physician Executives (ACPE), which is the largest organization for physician executives in the United States. The ACPE is accredited by the Accreditation Council for Continuing Medical Education and has more than 9,000 members from the United States and 45 other countries, holding roles including chief medical officer, chief executive officer, vice president of medical affairs, directorships, as well as others (ACPE Website).

A web-based survey was emailed to members of the American College of Physician Executives (ACPE) by the management of the organization. (This is the second study that has utilized the data from this survey, the first study can be found in its entirety in chapter 4.) The ACPE has over 9,000 registered members who are self-selecting into the organization. The ACPE requires full members to be allopathic (MD) and osteopathic (DO) physicians; dentists (DDS or DMS); or podiatrists (DPM).

Respondents were provided a URL to the survey, which was deployed through Qualtrics, a popular online survey research tool. Of the 9,083 contacts that received the email with the survey link, 8,672 emails were delivered, 2,148 were tracked as opened, 1,030 clicked on the link for the survey, and 936 physicians started the survey. The response rate was 7.9%. The sample was then reviewed for missing values resulting in a final sample size of 677.

The data was collected beginning in July 2011, with 547 males and 128 females responding (81% and 19%, respectively). A reminder email was sent out two weeks after the initial email went out to members. Of the respondents, 420 stated their leadership role as part time and 222 as full time, with the remaining responding with 'not applicable.' 308 (46%) of respondents stated their age as 55 or older and of that age group, 240 reported their role as full time. The American Medical Association (AMA) delegates reported 79.4% as male and 20.6% as female and 77.3% as over age 50 as of December 2010 (AMA Annual Meeting, 2011), therefore I believe that the sample is objectively representative of the population of physicians in leadership. The difference in the age brackets may account for the significant increase in those over 50, as opposed to those over 55.

***Measurement and instrument development.*** In developing the survey instrument, I first sent a list of itemized questions to ten respondents, including several physician leaders, and asked them to comment on the flow, clarity, timing, and the respondents' interest through completion rate. Following the pre-test, I modified a couple of the items to ensure that exact meaning was conveyed and understood. The pre-test was then followed by asking three individuals to read the questions aloud and answer them in order to assess cognitive difficulties presented by the survey items (Bolton, 1993). Based upon this feedback I adjusted the language of one item for clarification.

An online pilot survey was then conducted with 65 physicians working in four hospitals within a single healthcare organization, and an exploratory factor analysis (EFA) was performed for each hypothesized construct within the model. The items were found to be acceptable for factoring within each construct and no adjustments were made following this step.

### **Data Screening**

Prior to the analysis, I removed missing values related to the latent constructs. I screened the data for linearity, normality, multicollinearity, skewness, and outliers and found the data adequate for analysis. From the surveys completed, I dropped 6 data points due to missing values. There were no significant outliers, as I utilized primarily Likert scales within the survey.

### **Statistical Analysis**

The research model was tested using Partial Least Squares (PLS-Graph, v3.0, Build 1060), (Chin & Frye, 1998). An assumption for a covariance based SEM analysis is that the items used to measure a latent variable are reflective (Chin, 2010). 'Since PLS

explicitly estimates the outer weights to form construct scores, modeling formative indicators is much less problematic' (Chin, 2010: 664). Jarvis, MacKenzie, and Podsakoff (2003) provide a set of four decision rules based on: (1) direction of causality based on conceptual definitions, (2) interchangeability of the indicators, (3) co-variation among the indicators, and (4) nomological net of the indicators. Taken together, these rules can suggest either a reflective or formative model formulation. As with the last study employing the use of this construct and data, it was found that participation is formative in nature. In addition, this model contains a second order formative construct (social intelligence competencies); therefore PLS-Graph was a suitable technique to analyze the model.

### **Measurement Model**

*Exploratory factor analysis- reflective constructs only.* I conducted an EFA (exploratory factor analysis) using principal axis factoring and PROMAX rotation. Sample size was adequate with 677 usable responses across 59 items. The Kaiser-Meyer-Olkin (KMO) value was .959 and the Barlett's Test of Sphericity was significant ( $\chi^2 = 12678.255$ ,  $df = 325$ , and  $p < .000$ ), indicating sufficient intercorrelations for factors to emerge. I ran the analysis initially by selecting factors with Eigen Values over 1. Using this criterion, two latent constructs hypothesized *a priori* in my model, emerged from the data. The constructs explained a little over 55% of the variance within the data. I also conducted a sensitivity analysis by re-running the EFA specifying 3 and 4 factors, but found considerable cross-loadings.

The pattern matrix was then examined for initial convergent and discriminant validity. I employed criterion designated by Hair et al. (2011), which states that factor

loadings in the range of .3 to .4 are considered acceptable for interpretation of structure, and given the sample size of 677, each loading over .3 is considered statistically significant. I also used the criteria from Igbaria et al. (1995) to identify and interpret factors which were: each item should load 0.50 or greater on one factor and 0.35 or lower on the other factors. It was found that several items cross loaded, however the difference in all cross loadings were greater than .2, therefore the items were retained and I moved into the confirmatory factor analysis (CFA).

Table 9 shows the reliability of each of the two reflective factors, as well as the reflective first order constructs contained within the second order formative construct of social intelligence competencies. Table 10 provides the correlations between factors. The EFA results provided the foundation for further testing using PLS-Graph (v3.0, Build 1130, (Chin & Frye, 1998).

**TABLE 10**  
**EFA Measurement Model: Reflective Constructs**

<b>Construct</b>	<b>Number of Items</b>	<b>Loadings</b>	<b>Cronbach's Alpha</b>
Social Intelligence Competencies *	30		
Empathy	5	.6289, .7542, .6867, .6698, .6009	.690
Organizational Awareness	5	.7215, .7196, .7691, .7571, .7660	.801
Inspirational Leadership	5	.7548, .7666, .8045, .6879, .7059	.797
Coaching/Mentoring	5	.6255, .8074, .7292, .6651, .8079	.780
Influence	5	.7402, .6798, .6791, .6529, .5030	.669
Teamwork	5	.7407, .6892, .7936, .8172, .7140	.806
Role Endorsement	6	.6420, .7287, .8576, .7631, .8509, .8153	.869
Positive Psychological Climate	21	.6204, .5384, .5884, .6678, .4955, .7352, .8840, .8446, .8365, .8229, .7727, .8385, .6472, .7020, .7366, .7607, .7272, .7861, .7407, .7489	.953

\* *Social Intelligence Competencies is a second order formative construct. The first order reflective constructs are listed below.*

**TABLE 11**  
**Correlations and Reliability and Validity of Constructs**

Construct	CR	AVE									
Role Endorsement	0.902	0.608	1								
(2) Social Intelligence	0.932	0.317	0.422	1							
(1) Empathy	0.802	0.449	0.267	0.791	1						
(1) Organizational Awareness	0.863	0.558	0.384	0.767	0.549	1					
(1) Inspirational Leadership	0.862	0.555	0.368	0.814	0.541	0.497	1				
(1) Coach/Mentoring	0.850	0.534	0.35	0.787	0.522	0.511	0.618	1			
(1) Influence	0.788	0.430	0.293	0.731	0.554	0.528	0.529	0.465	1		
Teamwork	0.867	0.566	0.306	0.807	0.606	0.511	0.592	0.553	0.479	1	
Positive Psychological Climate	0.958	0.535	0.676	0.359	0.241	0.358	0.288	0.246	0.245	0.297	1
Participation *			0.36	0.463	0.316	0.345	0.406	0.383	0.345	0.372	0.286

\* *Participation is a formative construct. (2) Signifies the second order formative dimension, (1) signifies the first order reflective dimensions in the underlying formative construct of social intelligence.*

I employed the use of Partial Least Squares (PLS), a structural equation modeling (SEM) technique, for testing the research model. PLS is a regression-based technique with roots in path analysis (Chin & Frye, 1998; Fornell & Larcker, 1981); however, it has emerged as a powerful approach to studying causal models involving multiple constructs with multiple indicators. This approach facilitates testing of the measurement model and the structural model simultaneously. The measurement model revalidated the instrument and determined how each manifest variable's loaded on the construct that it measured. The structural model was estimated using the PLS algorithm with bootstrapping (1000 resamples).

### **Assessment of the Measurement Model**

To assess the psychometric properties of the latent constructs, a PLS measurement model was created. To assess convergent validity, I assessed the internal consistency reliability (ICR), the average variance extracted (AVE), and the item factor loadings for the reflective constructs.

*Estimation of internal consistency.* The survey employed multi-item scales to measure the reflective first-order factors. The measurement properties for the reflective constructs were examined by conducting confirmatory factor analyses using PLS. To assess the internal consistency of the reflective factors, the AVEs, coefficient alpha and composite reliability measures were examined. I did not assess validity and reliability for either of the formative constructs, since the very nature of formative measurement renders irrelevant traditional assessments of convergent validity and item reliability.

Accordingly, as seen in Table 3, coefficient alpha values ranged from 0.786 to 0.887. Likewise, the composite reliabilities for all reflective measures were high, ranging from 0.788 to 0.932. The recommended level for establishing a tolerable reliability is the 0.70 threshold. All reflective construct coefficients were above 0.788 showing strong reliability.

Tests were conducted to evaluate the convergent and discriminant validity and the reliability of reflective measures. Convergent validity of the constructs is assessed by examining the constructs factor loadings, composite scale reliability and average variance extracted (Chin & Frye, 1998, Fornell & Larcker, 1981). Loadings in excess of 0.70 on their respective factors are interpreted to indicate convergent validity (Straub et al., 2004). A second indicator of convergence was also employed. Here, a value above 0.50 for the average variance extracted (AVE) for each construct is assumed to indicate sufficient convergence. As seen in Table 3, results indicate that both of these conditions have been met. Discriminant validity is demonstrated when the square root of the AVE is greater than the correlations between constructs (Bollen, 1989).

The square root of AVEs ranged from 0.656 to 0.780 for reflective constructs. For a second test of discriminant validity, individual items may be assumed to possess sufficient discriminant validity if they load higher on their own respective construct than on any other latent variable (Gefen et al., 2000; Straub et al., 2004). This was true for all items. Based on both tests, the measures possess sufficient discriminant validity. Consequently, evidence for internal consistency and the scales reliability were provided by these results.

### **Dimensionality and Convergent and Discriminant Validity**

It was expected that items belonging to the same scale would have factor loadings exceeding 0.70 on this common factor. As indicated by the results in Table 4, all loadings were statistically significant based on *t*-statistics generated from running a bootstrap on the data and none were below the acceptable threshold (0.60).

“Conventional procedures used to assess the validity and reliability of scales composed of reflective indicators (e.g., factor analysis and assessment of internal consistency) are not appropriate for composite variables (i.e., indexes) with formative indicators” (Diamantopoulos & Winklhofer, 2001). One of those measures that is not appropriate for formative constructs is AVE, which is the measure of the amount of variance that indicators provide to the latent variable, relative to the measurement error. For reflective constructs, AVE should be .50 or greater, which explains 50% or more of the variance (Chin, 2010). The composite reliability (CR) for each construct is found in Table 4 (above). The CR for each reflective construct exceeds the acceptable threshold (>.0.70) and the average variance extracted (AVE) confirms the reliability of the indicators and demonstrates convergent validity.

## **Common Method Bias**

As the data was collected from a single source, the possibility of common method bias cannot be eliminated. In order to test for common method bias, I first applied Harman's one-factor test, including all items in the model in a principle components factor analysis (Podsakoff et al., 2003). If one factor accounts for the majority of the covariance, common method bias is present. Based upon Eigenvalues greater than 1, 4 factors emerged, which explained over 65% of the variance, therefore it appears that there is no common method bias. Correlations among the latent factors were examined to see if any of the values exceeds .90 (Lowry, Romano, Jenkins and Guthrie, 2009: 178). Correlations above 0.90 are indicative of a common method bias problem (Pavlou et al., 2007). No correlations were found to be near the .90 level, which suggests that there is no evidence of common method bias.

## **Structural Model**

The test of the structural model includes estimating the path coefficients and the  $R^2$  values. The path coefficients, which indicate the strength and direction of the relationships among the variables, should be significant and directionally consistent with expectations. The  $R^2$ , which represents the proportion of variance in the endogenous variables that can be explained by the antecedents, demonstrates the predictive power of the model. Collectively,  $R^2$  and path coefficients indicate how well the model fits the empirical data. To assess whether the direct effects were significant, bootstrap resampling was performed. Bootstrapping (677 resamples) was used to create subsamples from which the t-values associated with various inner and outer model paths in the model were obtained (Chin, 2000).

A series of tests were run to investigate the predictive power of the structural model (Chin & Frye, 1998). I tested the model for the change in  $R^2$ , to determine the substantive impact of each independent variable upon the dependent variables. To do so, I calculated the  $f^2$  in the following manner:

$$f^2 = \frac{R^2_{included} - R^2_{excluded}}{1 - R^2_{included}}$$

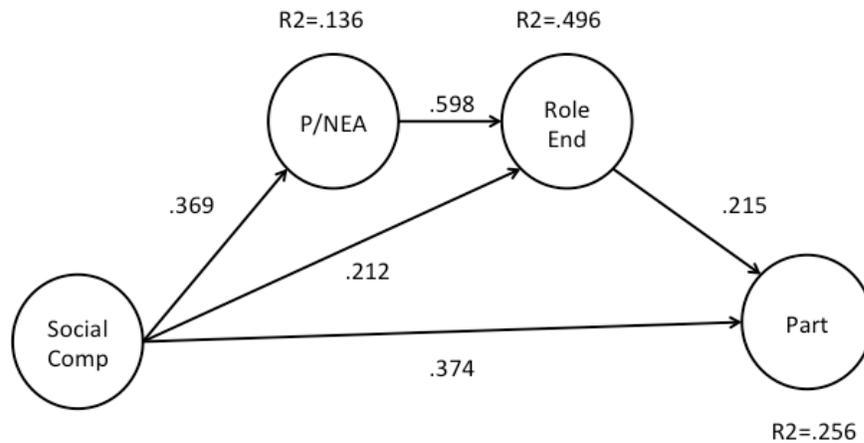
$R^2$  represents the amount of variance in the construct that is explained by the model. Cohen (1988) recommends values of 0.02, 0.15 and 0.35 to denote small, medium or large effects at the structural level. I used the causal four-steps method developed by Baron and Kenny (1986) to test for mediation effects, presented in Table 5, below. Analysis of the structural model revealed four mediated relationships where a significant independent variable (IV) – dependent variable (DV) relationship was mediated.

### **Findings**

See Table 5 for the effect size of each relationship. All effects are within the appropriate range (Cohen, 1998). I tested the hypothesized structural model in PLS and the results showed five positive direct relationships between constructs.

The final model, shown in Figure 9, shows the relationships and significant paths between constructs, as well as the  $R^2$  values for each construct. The details of the structural model can be found in the Appendix.

**FIGURE 9**  
**Structural Model**



\*  $p < 0.05$ . \*\*  $p < 0.01$ . \*\*\*  $p < 0.001$ .

**TABLE 12**  
**Path Analysis and Effect Sizes**

Hypothesized Relationship	$\beta$	R2	t-statistic	$f^2$	Strength
Social Competencies → Role Endorsement	.496***	.496	6.5397	.0714	Small
Social Competencies → Participation	.374***	.256	9.0052	.1465	Small
Positive Psychological Climate → Role Endorsement	.598***	.496	20.5924	.5833	<b>Large</b>
Role Endorsement → Participation	.215***	.256	4.7874	.0511	Small

\*  $p < 0.05$ . \*\*  $p < 0.01$ . \*\*\*  $p < 0.001$ .

Summary of hypotheses:

*Hypothesis 1. Role endorsement partially and positively mediates the relationship between social competencies and professional participation.*

*Hypothesis 2. Role endorsement mediates partially and positively the effect of positive psychological climate on participation.*

*Hypothesis 3. Positive psychological climate mediates partially and positively the effect of social competencies on role endorsement,*

*Hypothesis 4. Positive psychological climate partially and positively mediates the relationship between social competencies and participation.*

*Hypothesis 5. A positive psychological climate will increase professional participation.*

*Hypothesis 6. Part time physician leaders have less role endorsement, therefore a lower level of participation than full time leaders.*

The results of testing our structural model provide evidence to **support H1**, social competencies ( $\beta = .374$ ) has a significant and positive relationship with participation. Role endorsement plays a mediating role in the relationship of social competencies to participation. The direct effect of social competencies to participation was significant, as was the indirect effect via role endorsement. Moreover, social competencies showed a significant direct effect with the role endorsement ( $\beta = .496$ ) mediator, and role endorsement ( $\beta = .215$ ) had a significant relationship with participation. These findings are consistent with the hypothesis of partially mediated effects therefore **H3 is also supported**.

I hypothesized that the effect of positive psychological climate on participation would be partially mediated by role endorsement. Instead, I found that there was not a significant relationship from positive psychological climate to participation, therefore the mediation of psychological climate to participation is actually full mediation, therefore **H2 is not supported**, rather this effect is stronger than anticipated. As well, as demonstrated by the results of the  $f^2$  test, the strongest relationship in the model is between positive psychological climate and role endorsement, which indicates the importance of climate upon the acceptance of a leadership role for these physicians. The direct effect of psychological climate to participation is no longer significant once the mediator (role endorsement) is introduced. These results are consistent with the

hypothesis of no mediation; therefore **H4 is not supported**, as partial mediation was hypothesized.

**TABLE 13**  
**Mediation Results of Compassion and Vision**

Mediated Path	Path Coefficient	T-Statistic	StdErr	Effect
H1: SC → PART	0.3740***	9.0052	0.0415	Partial Mediation
SC → RE	0.2120***	6.5397	0.0324	
RE → PART	0.2150***	4.7874	0.0449	
H2: PPC → PART	0.0050NS	0.1076	0.0465	Full Mediation
PPC → RE	0.5980***	20.5924	0.0290	
RE → PART	0.2150***	4.7874	0.0449	
H3: SC → RE	0.2120***	6.5397	0.0324	Partial Mediation
SC → PPC	0.3690***	22.2166	0.0318	
PPC → RE	0.5980***	20.5924	0.0290	
H4: SC → PART	0.3740***	9.0052	0.0415	No Mediation
SC → PPC	0.3690***	22.2166	0.0318	
PPC → PART	0.0050NS	0.1076	0.0465	

\* p < 0.05. \*\* p < 0.01. \*\*\* p < 0.001.

### Discussion

This study showed a pattern of correlations consistent with the mediational hypotheses that the effect of social competencies on participation is mediated by role endorsement and psychological climate. The double mediation with positive psychological climate and role endorsement found in this model warrants a higher level of meaning be placed upon the cultivation of positive relationships. Positive relationships support the individual in acceptance of a second identity as a leader, leading therefore to a higher level of professional participation. These findings also may be important in understanding how healthcare leaders can increase the effectiveness of their physician leaders. A higher level of commitment to a leadership role should increase a physician leader's interest in becoming higher performing. Establishing the importance of a social identity group of physicians *as leaders*, and “develop[ing] a medical staff vision

based on values the physicians hold common,” (O'Connor & Fiol, 2006) may assist physicians in determining the importance of physician leadership.

By highlighting in-group similarities between physicians involved in leadership, healthcare organizations have an opportunity to create a new social identity group for physician leaders. This will strengthen their own acceptance of their leadership identity, as well as begin to influence how other physicians view leaders within the organization. Instead of an ‘us’ versus ‘them’ perspective with regard to administration and leadership, physicians will then begin to embrace the importance of physician leadership as it relates to their identity. This must be augmented by the emphasis upon quality of care through innovation and effectiveness. With the common goal of increasing effectiveness as leaders by ongoing innovation, as well as the improvement of patient care, physician leaders can find connections in those ideals they hold similar.

### **Limitations**

Self-reported data, despite their limitations are indispensable when there is no alternative source of essential data. However, I suggest that an important consideration of these results is that we are interested in the subjective nature of the concepts from the perspective of the individual; therefore this was the appropriate method of collection for this study. Our ability to generalize to other types of professionals is limited to this group studied. A broader understanding of physician leadership may benefit from a more comprehensive collection procedure, including one in which data is collected in a 360 degree format, which will allow for a construction of organizational climate. A comparative analysis could be performed where the agreement or divergence between

psychological climate and organizational climate and the mediating affects could be studied.

While I took great strides to protect the results from common methods bias, no statistical test can guarantee such bias does not exist within the results (Podsakoff et al., 2003). If possible, I would have preferred to have an evenly distributed sample by role, which may have led to further insight. Finally, the dependent variable, participation, could have been measured on a different scale rather a psychometric scale, which may have affected the results.

### **Implications for Practice and Future Research**

This is the first study to confirm the mediating relationship of role endorsement upon the professional participation of physician leaders. Taken as a follow up inquiry to my last quantitative study, which examined role endorsement as an antecedent, I find not only strength in this construct as mediator, but also find significance in the double mediation occurring through positive psychological climate and role endorsement.

Interestingly, the last quantitative inquiry found no significant differences related to part or full time status; however, this model provided a more robust analysis with two mediators, and I did indeed find that *the relationship of social competencies to role endorsement was stronger for part time leaders* and *the relationship of positive psychological climate to role endorsement is stronger for full time leaders*. The increased importance of the role competencies upon role endorsement is not surprising, as the part time leaders who have a greater understanding of relationship management would be expected to be better positioned to accept a secondary identity of leader. The full time leaders may be more affected by the quality of the relationships than the part

time. Due to the nature of their role being their primary focus, these full time leaders have more constant and ongoing interaction with others within the organization. In testing this model, I was only interested in examining the linear relationships associated with the intervening effects. However, moderator relationships could be incorporated into future explorations involving these constructs.

Another area of future study, which should be of particular importance to healthcare leaders, is the age at which a physician begins to take on leadership roles. Note from this research that the majority of physician leaders, even part time and temporary leaders, are over 55 years of age. What are the implications of this for the future of physician leadership?

## CHAPTER V: CORE FINDINGS AND INTEGRATED DISCUSSION

Taken together, the results of these studies provide valuable understanding of physician leadership, from the perspective of how physicians make the transition from individual contributor to leader. The purpose of this final chapter is to discuss the impact of the results of these three integrated studies, as well as explore future areas for research. This chapter is not meant to be an exhaustive review of the preceding chapters; instead this chapter will focus on the most interesting results and provide new insight as to the contribution to both practice and theory.

**TABLE 14**  
**Research Questions, Methods and Remaining Issues**

<b>Research Question</b>	<b>Method</b>	<b>Remaining Issues</b>
What is the nature of physician leadership?	Qualitative	What are the antecedents to creation of a secondary leadership identity? How is this constructed? What are the mediating factors that influence professional participation?
What are the mediating effects of vision and compassion upon a physician leader's professional participation?	Quantitative	What is the nature of the causal relationship between the factors that lead to higher professional participation?
What is the mediating effect of positive psychological climate and role endorsement upon the relationship of social competence and participation? Does positive psychological climate also mediate role endorsement?	Quantitative	Does a higher level of professional participation lead to increased effectiveness? What specific extra-role behaviors are indicative of a higher level of commitment to the leadership role?

The first question led me down a path of exploration as to the nature of physician leadership. My findings revealed that physicians constructed a leadership identity through the individual acceptance of as well as their peers' acknowledgement of their leadership role, and the organizational authority to enact their role; and specifically the physicians who were full time administrators perceived their leadership roles, while physicians who were part time leaders did not. This was not surprising as it became

apparent that many physician leadership roles were part time and even temporary. These findings supported DeRue and Ashford's (2010) theory on the relational construction of self-identity.

In addition to the part time physician leaders not identifying with their leadership role, and rather often being 'forced' into a leadership role, I found that these roles were not recognized by their peers, nor supported by their organization in terms of real authority to enact their role. One physician stated that, "*[Managing] is very hard for specialists, and even surgeons, because of the disciplinary action they have to play. Their referral sources are coming from the various people they're disciplining and monitoring, so it's a tough position.*" Therefore, these physicians who were pushed into leadership roles were motivated to advance organizational issues and programs of potential benefit to themselves and their peers, but reluctant to pursue those perceived to be controversial or bearing reputational risk. Their clear affiliation was to their peer group of fellow physicians rather than to organizational goals and objectives, as their allegiance remains to their primary professional identity as a physician (Larson, 1979; Montgomery, 2001). These findings led me to seek further clarification of the conceptualization of leadership from the physician's perspective, as it became apparent that there were many other factors, outside of merely taking on a leadership role.

The second research question sought confirmation of the factors that impact a physician leader's professional participation related to their leadership role. Through this inquiry, I confirmed the importance of the social construction of a leadership identity through testing role endorsement. I also found support that role conflict and role endorsement are both mediated by vision and compassion. From this second study, we

know that role endorsement is important to professional (leadership) commitment, but more importantly the results encouraged further clarification on the importance of positive psychological climate.

In the third study, I found the clarification as to the relationship of identity and the impact upon participation. I found that the double mediation of positive psychological climate and role endorsement at an individual, relational and organizational level was key in allowing for the acceptance of a secondary identity as a leader and ultimately a higher level of participation in one's leadership role. Many scholars have argued that meeting psychological needs is a precursor for higher engagement and participation (Brown & Leigh, 1996; Kahn, 1990; Pfeffer, 1994). Therefore, these results are not surprising, but nonetheless these findings offer confirmation of the importance of positive psychological climate and how it sets the stage for acceptance of the leadership identity. This finding should inform healthcare leaders as to the important factors that could lead to a higher level of physician leadership effectiveness.

While all physicians may not take on an official leadership role, all physicians are leaders within their own practice and in the case of surgeons, especially within the operating room. Therefore, it is an important consideration that these findings are important on some level for all physicians, not only those who aspire to (or are find themselves within) a formal leadership role. Establishing the importance of a social identity group of physicians *as leaders*, and “develop[ing] a medical staff vision based on values the physicians hold common,” (O'Connor & Fiol, 2006) may assist physicians in determining the importance of physician leadership- even if this is only in support of their peers in leadership roles. It may be just as important to educate and encourage physicians

in accepting the importance of physician leadership roles from the peer perspective, as it is to encourage their own aspirations in leadership. These results have shown that without peer acceptance, as physician leader is less likely to endorse their own role.

Based upon these findings, a picture begins to emerge that provides a glimpse into how physicians in leadership roles can improve the potential in acceptance of the identity as a leader and in turn participate at a higher level. Through greater understanding of the precursors to an increased level of participation by physician's in leadership, we can begin to conceptualize training and development programs at all levels of physician professionalization and education.

## **Implications**

### **Practice**

A practical implication of these findings is the understanding of the factors that influence the acceptance of a leadership identity for physicians by healthcare administrators, so that they may positively influence the interpreted psychological climate by physician leaders. If healthcare leaders know the factors that influence physician leaders to fully accept and engage in their role, they will be better prepared to assist in the development of physician leaders. While psychological climate is an understanding of meaning by the individual, there are several ways in which an organization can influence that perception. As well, the social construction of the physician's leadership identity can be aided by providing a framework for understanding of physician leadership throughout the organization and encouraging physicians within as well as outside of leadership roles to embrace the importance of leadership. If a physician's peers value leadership, they are more likely to endorse physicians in their

leadership roles, thereby empowering and encouraging a self-acceptance of leadership identity.

At the organizational level, it is important for healthcare leaders to understand the implications of the organizational authority structure and how that influences the adoption of a leadership identity. If a physician accepts a leadership role without formal decision making authority or the ability to render disciplinary decisions to those under their management, they are less likely to accept that identity as a leader.

Physicians entering into leadership roles may also be informed by these findings. If physicians are aware of the factors that may limit or enhance how they enact their role as a leader, they may be better prepared to deal with the challenges. The basic realization that they may struggle with the acceptance of the secondary identity as a leader may alone be enough to encourage them to explore options to overcome the limitations to acceptance of that role.

Finally, these results should also inform medical school administrators and faculty members of the importance of including leadership skills and specifically emotional and social competencies into the curriculum. Chaudry et al. note “because leadership skill sets are not emphasized during training and practice, physicians, whose education is rooted in quantitative science, tend to address most problems with technical solutions” (Chaudry et al., 2008: 219).

Stoller, Taylor and Farver (2013) have suggested a curriculum to develop self awareness in physicians, which begins as a medical student and develops the individual as they move from student, to physician, to member of a healthcare team and finally to a leadership role. I propose that this would greatly benefit a physician as they move

through their career and into leadership roles; not only in developing their own emotional intelligence, but also to guide them in the process of adoption of a leadership identity and endorsement of their role.

### **Theory**

From the standpoint of creation of new theory, these results provide direction as to the nature of physician leadership and factors that may influence the development of a leadership identity, not only for physicians but also for other highly educated individuals in professional roles. Specifically, these results provide us new insight into the nature of physician leadership and how it is constructed in contrast with traditional leadership theories. These findings offer evidence that role endorsement is important to physician leaders in displaying a higher level of professional participation; yet the relationship is better understood when acceptance of a leadership role is significantly impacted by positive psychological climate.

This study is also the first to empirically test the conceptualization of the social construction of identity introduced by DeRue and Ashford (2010), through empirical testing in both qualitative and quantitative models. These findings on the relational construction of identity may extend existing theory on social identity and contribute to scholars interested in various domains, including sociology, cultural anthropology, social psychology and management.

### **Limitations**

Although I found a strong relationship from role endorsement to vision in the second study, it is important to note that this may be a non-recursive relationship between vision leading to acceptance of a leadership identity, as well as to role endorsement,

allowing for a leader to have a more cohesive vision. As I was unable to test this potentially recursive relationship in this inquiry, I suggest that an area of future study examine this phenomenon. While I found a causal relationship in each direction through testing different models, I am still unsure of which is the proper antecedent.

The methods in and of themselves are a source of limitations. The qualitative inquiry may be subject to issues of credibility, transferability and dependability. To combat these limitations, each interview was recorded and transcribed by a professional transcription company, and reviewed several times. Each interview was summarized and coded, with common codes established and continued throughout the coding process. Coding also occurred at several levels, beginning with open coding, and continuing through axial and selective coding according to the methods outlined by Corbin and Strauss (1990). It also could be considered a limitation that I was the sole analyst of this data, and the interpretation was therefore subject to my analysis and understanding of the intended meaning.

The sample for the qualitative study also may limit the transferability of these findings, as the data was collected from physicians working at three hospitals within a single healthcare organization within a limited geographic area. Differences may arise from the structure and culture of the organization and the individuals who may be attracted to the specific type of organization. However, Lincoln and Guba (1985) noted that transferability falls upon the person wanting to transfer the findings to another context. While I suggest that these findings are representative of others in a professional services environment, this has not been tested and is an area for future study.

Within the quantitative inquiries, several measures were taken to prevent issues of

reliability and validity, including the use of Cronbach's Alpha, composite reliability (CR), average variance extracted (AVE) and maximum shared variance (MSV). However, the dependent variable did only have three items that remained to the confirmatory factor analysis (CFA), therefore this could be a limitation of these results.

While the structure of this model, with both formative and reflective indicators required the use of PLS, there are challenges in testing mediation effects with PLS. "PLS poses challenges and opportunities for the study of mediation effects" (Bontis, Booker, & Serenko, 2007: 1433). While PLS uses bootstrapping to test the significance of relationships in the model and may be well suited in testing these relationships, there are no official guidelines on how to test and report mediation.

It is also an important consideration of these results that I have not examined the full range of variables that may be involved in a measure of professional participation, or the broader scope of organizational citizenship behavior. While these results are powerful, there may be other factors that are important in understanding these relationships.

Finally, as the data for each of the inquiries contained within this dissertation was self-reported data, there are several considerations including the fact that this data cannot be independently verified. It should also be noted that self-report data might be subject to issues of response distortion, and the data may fall victim to social desirability bias. To prevent this bias, the quantitative survey collected no identifying information, thereby guaranteeing the anonymity of the respondents.

## **Conclusion**

As the first study to explore the nature of physician leadership, these results offer a unique look into the socially constructed nature of physician leadership, from the individual perspective. Through the use of the triangulation of results across three independent studies including qualitative and quantitative methods, the importance of social competencies, role endorsement and psychological climate upon professional participation by physician leaders has been supported.

## APPENDICES

### Appendix A: Representative Quotes

<b>Representative Quotes, Finding 1: Strong Identity as Physician</b>	
Physicians	<i>"I mean, that's what we do as doctors, and it's a nice feeling when you see somebody, and you diagnose the problem, and... you're there and you take care of them."</i>
Part time Physician Managers	<i>"So my effectiveness, primarily, is derived from that. Taking care of patients." "...we [doctors] think that since we're good at one thing, we're good at a lot of different things." "[doctors think they] can tile your roof, do your floor, balance your checkbook, invent calculus again."</i>
Full time Physician Administrators	<i>One administrator on how he views himself, "[as a] physician, patient advocate." "I wanted to be a physician since I was a teenager." "[Being a doctor], it's in your soul. And I think to be an effective physician executive you have to have that engrained." "I never had any other interest other than becoming a doctor going back to probably age four or five."</i>

<b>Representative Quotes, Finding 2a: Physician Managers Failed to Embrace a Managerial Identity</b>	
Part time Physician Managers	<i>"What am I? Vice-something..." "A lot of these things sort of get thrust upon you as time goes on." "[Leadership roles are] handed like a hot potato to everybody" "I have [a] nominal title as executive director of...[something]...[but]... I have no idea [what that means]." "I've always gotten leadership roles whether I like it or not, I guess." "Well, I'm chairman of [the department], and it was something that I kind of got pulled into." "Dealing with personnel, I find difficult."</i>

<b>Representative Quotes, Finding 2b: Physician Administrators Identified as Physicians, but Accepted a Dual Identity as a Leader</b>	
Full time Physician Administrators	<i>"If I hadn't been a physician and couldn't talk doctor and think doctor around those tables, I couldn't have carried [the meetings with the medial staff] off at all." "You have to straddle the fence. That means you are both. You are a physician and you believe and think like a physician, and that's part of your morals and your ethic. And on the other hand, you have this whole body of knowledge, and this whole set of relationships, and the way you do things over here, which is administrations... it's my executive hat over here. And as I say, you can't jump across the fence, you have to be solidly planted on both sides at once." "I think that because I [was] a practicing physician, I was sensitive to some"</i>

*of those issues and [how] physician think.”*

*“It’s as simple a thing as, if I’m interactive with doctors, I don’t wear a suit. I’ll wear a sport coat or a golf shirt. Because if I show up in a shit, I’m a suit.”*

*“I’m a kind of doctor on the ground on the administration side.”*

**Representative Quotes, Finding 3ba: Physician Managers Do Not Feel Legitimized by Followers and Collectively Endorsed by the Organization**

Part time Physician  
Managers

*“Someone had to do it.”*

*“It’s not anywhere near a real job. It’s just a thing.”*

*“I wasn’t really gonna get paid for it or anything like that.”*

*“It’s very hard for specialists, and even surgeons, because of the disciplinary action they have to play. Their referral sources are coming from the various people they’re disciplining and monitoring, so it’s a tough position.”*

**Representative Quotes, Finding 3b: Physician Administrators Do Feel Legitimized by Followers and Collectively Endorsed by the Organization**

Full time Physician  
Administrators

*“My role here is pretty much to work with the medical staff. I’m the kind of liaison...servant leader, so to speak, to the medical staff and administration to help them govern themselves.”*

*“[You are] helping [the physicians] understand why the hospital has to do what it has to do to protect it as a community resource and meeting the needs of the community and how that interacts and affects what they do.”*

*“It was my belief that I could contribute as much, if not more, to the wider community that the hospital served by paying attention to a more global thing, rather than just the 2,000, 2,500, patients that I was trying to take care of [as a physician].”*

## Appendix B: Interview Questions

1. Can you give me a short overview of your personal and professional background?
    - a. Can you tell me about your current role?
    - b. Can you tell me about what influenced you to become a physician?
    - c. Describe why this was a role / organization that appealed to you.
    - d. Can you tell me about any leadership roles that you currently hold or have held in the past?
      - i. What led you to take on these roles?
    - e. What are your past roles?
  
  1. ADMINISTRATORS ONLY- Tell me about the day that you decided to stop practicing as a physician to become an administrator.
  
  2. ADMINISTRATORS ONLY- Thinking back over the last few weeks, can you think of a day you would describe as 'typical'? Tell me about it.
  
  3. ADMINISTRATORS ONLY- Could you now think back to a time over the last 12 months to a day that was atypical? Tell me about it.
  
  4. PHYSICIAN MANAGERS AND PHYSICIANS ONLY- Can you think of someone that you feel is an outstanding leader. Can you tell me about that person?
  
  5. PHYSICIAN MANAGERS AND PHYSICIANS ONLY- Can you tell me about a time that you experienced outstanding leadership?
  6. PHYSICIAN MANAGERS AND PHYSICIANS ONLY- Tell me about a time in the last year or so that you felt effective in a specific experience as a practitioner?
  7. PHYSICIAN MANAGERS AND PHYSICIANS ONLY- Can you tell me about a time in the last year or so that an interaction in dealing with others as a practitioner did not go so well?
  8. Can you tell me about a time in the last year or so that you felt effective in a specific experience as a leader?
  9. Can you tell me about a time in the last year or so that an interaction in dealing with others as a leader did not go so well?
- Clarifying Questions (Pertaining to Questions 2-5)
- a. What led up to the event/situation?
  - b. When did this happen?
  - c. Who was involved?
  - d. What did they say/do?
  - e. What did you say/do?
  - f. What were you thinking and how did you feel?
  - g. What was the result?
  - h. Is there anything else that you would like to share with me?

## **Appendix C: Physician Leadership Survey (Study 2 and 3)**

### **Q1 Informed Consent Form**

#### Introduction

Thank you for agreeing to participate in a research study conducted by Joann Farrell Quinn, a doctoral candidate at Case Western Reserve University. The purpose of this research is to best understand physician leadership.

#### Time Commitment

The amount of time required for your participation will be 10-15 minutes. You are asked to complete the survey to the best of your ability.

#### Risks

There are no major risks associated with this research. Nothing asked is personal in nature. Be assured that we will not share any of this information with anyone.

#### Privacy

The records of this research will be kept private. In any report the researchers publish, the researchers will not include any information that will identify a participant. Any information you provide will be kept in a secure password protected file and firewall protected from internet access. No one will ever know whether or not you were selected for this study, whether or not you participated, and how you responded or did not respond to the study questions. No printed information will be discarded—all printed documents will be shredded. Access to information will be limited to the researchers, the University Review Board responsible for protecting human participants, and regulatory agencies. Further, no identifying information will be included in the research findings.

#### Participation

Your participation in this research study is voluntary. You may choose not to participate and you may withdraw your consent to participate at any time. If you choose not to participate, it will not affect your current or future relations with Case Western Reserve University. You will not be penalized in any way should you decide not to participate or to withdraw from this study.

#### Questions

The researchers conducting this study are Dr. Richard Boyatzis and Joann Farrell Quinn. If you have any questions, you may contact Dr. Boyatzis at reb2@case.edu or Joann Farrell Quinn at jfq4@case.edu. If the researchers cannot be reached, or if you would like to talk to someone other than the researcher(s) about (1) concerns regarding this study, (2) research participant rights, (3) research-related injuries, or (4) other human subjects issues, please contact Case Western Reserve University's Institutional Review Board at (216) 368-6925 or write: Case Western Reserve University; Institutional Review Board; 10900 Euclid Ave.; Cleveland, OH 44106-7230.

Thank you for your time and support.

**Q2 we have read and understood the above consent form and desire of my own free will to participate in this study.**

- Yes (1)
- No (2)

If No Is Selected, Then Skip To End of Survey

**Q3 To what extent do feel the following statements are true or false with regard your organization?**

	False (1)	Mostly False (2)	Neither True or False (3)	Mostly True (4)	True (5)
we have to “feel my way” in performing my duties. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
[There is a] lack of policies and guidelines to help me. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we work with two or more groups who operate quite differently. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we do things that are apt to be accepted by one person and not accepted by others. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we feel certain about how much authority we have. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we am able to act the same regardless of the group we am with. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we know what my responsibilities are. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we receive assignments that are within my training and capability. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Q4 How many professional associations do you participate in which are not required for your role?**

- None (1)
- One (2)
- 2-3 (3)
- Four or more (4)

**Q5 How many professional associations do you participate in which are required for your role?**

- None (1)
- One (2)
- 2-3 (3)
- Four or more (4)

**Q6 Please list the professional associations that you participate in.**

**Q7 How many committees or groups do you participate in within your organization that are not required within your role?**

- None (1)
- One (2)
- 2-3 (3)
- Four or more (4)

**Q8 If you do participate in committees or groups within your association that are not required, what are they?**

**Q9 Thinking of your role as a leader in your hospital or healthcare organization, please respond to the following questions:**

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
we feel that we am a leader. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My peers acknowledge leadership position. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we have the authority that we need to carry out my role. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My title describes the leadership role that we enact. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The organization provides me with the authority to carry out my leadership responsibilities. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My leadership role is recognized throughout the organization. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Q10 To what extent do you agree (or disagree) with the following statements about your organization?**

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
Management emphasizes a vision for the future. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we often discuss possibilities for the future. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our future as an organization will be better than our past. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This is a great place to work. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we do not feel trusted by my colleagues. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we feel inspired by our vision and mission. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we are encouraged by management to use and build on our strengths. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

we feel trusted by my colleagues. (8)	<input type="radio"/>				
we care about my colleagues at work. (9)	<input type="radio"/>				
Our work is focused on our vision or mission. (10)	<input type="radio"/>				
we enjoy working here. (11)	<input type="radio"/>				
we do not like working here. (12)	<input type="radio"/>				
Working here is a joy. (13)	<input type="radio"/>				
If we had a choice, we would work somewhere else. (14)	<input type="radio"/>				
we do not trust my colleagues. (15)	<input type="radio"/>				
Overall, it feels good to work here. (16)	<input type="radio"/>				
we do not care about my colleagues at work. (17)	<input type="radio"/>				
Our purpose as an organization is clear from our vision or mission. (18)	<input type="radio"/>				
Management emphasizes our current strengths. (19)	<input type="radio"/>				
we trust my colleagues. (20)	<input type="radio"/>				
Management emphasizes a vision for the future. (21)	<input type="radio"/>				

**Q11 Do you have a Master of Public Health (MPH) or other graduate degree in health care leadership?**

- Yes (1)
- No (2)

**Q12 Do you have a Master of Business Administration (MBA) degree?**

- Yes (1)
- No (2)

**Q13 Have you participated in an external leadership development program, such as one offered by an independent organization like the American College of Physician Executives (ACPE)?**

- Yes (1)
- No (2)

**Q14 Have you participated in an internal leadership development program offered by your organization?**

- Yes (1)
- No (2)

**Q15 To what extent do you agree (or disagree) with the following statements about yourself?**

*\*The items for the assessment of social competencies were taken from the Emotional and Social Competency Inventory. These items are not included in this appendix due to contractual limitations.*

**Q16 What is your current role?**

**Q17 Do you hold a part time or full time leadership role?**

- Part Time (1)
- Full Time (2)
- Not Applicable (3)

**Q18 Do you receive compensation for a part time leadership role within your organization?**

- Yes (1)
- No (2)
- Not Applicable (3)

**Q19 How long have you been in your current leadership position?**

- Less than 1 year (1)
- 1-2 years (2)
- 3-5 years (3)
- 6-10 years (4)
- 11-15 years (5)
- More than 15 years (6)

**Q20 How long have you been with the organization?**

- Less than 1 year (1)
- 1-2 years (2)
- 3-5 years (3)
- 6-10 years (4)
- 11-15 years (5)
- More than 15 years (6)

**Q21 What is your age?**

- Under 30 (1)
- 30-40 (2)
- 41-45 (3)
- 46-50 (4)
- 51-55 (5)
- Over 55 (6)

**Q22 What is your gender?**

- Male (1)
- Female (2)

## Appendix D: Summary of Construct Operationalization (Study 2)

Construct	Definition	Indicators
<b>Role Endorsement (reflective)</b>	Whether an individual is recognized by their peers and organization as having the authority to carry out that role.	<ol style="list-style-type: none"> <li>1. I feel that I am a leader.</li> <li>2. My peers acknowledge my authority.</li> <li>3. I have the authority that I need to carry out my role.</li> <li>4. I feel my leadership role is the same as what my title states.</li> <li>5. I feel that the organization provides me with the authority to carry out my (leadership) role.</li> <li>6. My leadership role is recognized throughout the organization.</li> </ol>
<b>Positive Relationships (P/NEA) (reflective)</b>	<p>The positive emotional attractor (PEA) triggers constructive cognitive and physiological responses that enhance an individual's openness and adaptive behaviors. The negative emotional attractor (NEA) triggers conversely may compromise an individual's effectiveness.</p> <p>There are three sub-constructs of PNEA, vision, compassion and overall positive mood.</p>	<p><b>Vision</b></p> <ol style="list-style-type: none"> <li>1. Management emphasizes a vision for the future.</li> <li>2. We often discuss possibilities for the future</li> <li>3. Our future as an organization will be better than our past.</li> <li>4. I feel inspired by our vision and mission.</li> <li>5. We are encouraged by management to and build on our strengths.</li> <li>6. Our work is focused on our vision or mission.</li> <li>7. Our purpose as an organization is clear in our vision or mission.</li> <li>8. Management emphasizes our current strengths.</li> </ol> <p><b>Compassion</b></p> <ol style="list-style-type: none"> <li>1. I do not feel trusted by my colleagues. *</li> <li>2. I feel trusted by my colleagues.</li> <li>3. I care about my colleagues at work.</li> <li>4. I do not trust my colleagues. *</li> <li>5. I do not care about my colleagues at work. *</li> <li>6. I trust my colleagues.</li> </ol> <p><b>Overall Positive Mood</b></p> <ol style="list-style-type: none"> <li>1. This is a great place to work.</li> <li>2. I enjoy working here.</li> <li>3. I do not like working here. *</li> <li>4. Working here is a joy.</li> <li>5. If I had a choice, I would work somewhere else. *</li> <li>6. Overall, it feels good to work here.</li> </ol> <p><i>* Note that the questions with an asterisk following are reverse coded.</i></p>
<b>Role Conflict (reflective)</b>	Incompatibility of requirements within the role.	<ol style="list-style-type: none"> <li>1. I have to “feel my way” in performing my duties.</li> <li>2. [There is a] lack of policies and guidelines to help me.</li> <li>3. I work with two or more groups who</li> </ol>

		<p>operate quite differently.</p> <p>4. I do things that are apt to be accepted by one person and not accepted by others.</p>
<b>Participation (formative)</b>		<p>1. Frequently makes [innovative] suggestions to coworkers. [Innovative replaced the original word, creative.]</p> <p>2. Encourages others to speak up at meetings</p> <p>3. Keeps well informed where opinion might benefit the organization.</p> <p>4. Does not pursue additional training to improve performance.*</p> <p>5. Does not push [peers and] superiors to perform to higher standards. [“Peers and” added to the original question.]*</p> <p><i>* Note that the questions with an asterisk following are reverse coded.</i></p>
<b>Controls</b>	<p>Age</p> <p>Gender</p> <p>Current Position Tenure</p> <p>Organization Tenure</p> <p>Part/Full Time Leadership Role</p>	<p>1. Age: How old are you?</p> <p>2. Gender: What is your gender?</p> <p>3. Current position tenure: How long have you been in your current leadership position?</p> <p>4. Organization tenure: How long have you been with the organization?</p> <p>5. Part/Full Time Leadership Role: Do you hold a part time or full time leadership role within your organization?</p> <p>Do you receive compensation for a part time leadership role within your organization?</p>

## Appendix E: EFA (Study 2)

### KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.932
Bartlett's Test of Sphericity	8935.759
df	378
Sig.	.000

### Communalities

	Initial	Extraction
COMP1	.509	.577
COMP2	.417	.428
COMP3	.514	.445
COMP4	.581	.621
COMP5	.440	.366
COMP6	.604	.621
OC1	.170	.208
OC2	.209	.270
OC3	.221	.311
OC4	.100	.107
OC5	.140	.130
RC1	.459	.542
RC2	.441	.488
RC3	.289	.331
RC4	.319	.353
ROE2	.412	.418
ROE3	.723	.757
ROE4	.486	.507
ROE5	.764	.816
ROE6	.565	.610
VIS1	.450	.444
VIS2	.440	.440
VIS3	.573	.566
VIS4	.611	.630
VIS5	.558	.566
VIS6	.651	.684
VIS7	.630	.643
VIS8	.630	.678

Extraction Method: Principal Axis Factoring.

**Pattern Matrix<sup>a</sup>**

	Factor				
	1	2	3	4	5
VIS8	.876				
VIS7	.853				
VIS6	.818				
VIS4	.805				
VIS5	.689				
VIS3	.604				
VIS1	.590				
VIS2	.586				
ROE5		.866			
ROE3		.854			
ROE4		.721			
ROE6		.695			
ROE2		.464			.252
COMP1			.773		
COMP4			.767		
COMP6			.656		
COMP2			.620		
COMP5			.518		.207
COMP3	.218		.437		.232
RC1				-.736	
RC2				-.652	
RC3				-.591	
RC4				-.541	
OC3					.532
OC2					.476
OC1					.467
OC4					.352
OC5					.294

Extraction Method: Principal Axis Factoring.

Rotation Method: Promax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

Factor	Total Variance Explained							
	Initial Eigenvalues		Extraction Sums of Squared Multiple Correlations			Rotation Sums of Squared Multiple Correlations		
	Total	% of Variance	Cumulative %	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.655	34.482	34.482	9.229	32.961	32.961	8.034	32.961
2	2.033	7.262	41.744	1.403	5.012	37.973	6.846	37.973
3	1.624	5.799	47.543	1.162	4.151	42.124	6.53	42.124
4	1.554	5.549	53.092	1.089	3.891	46.015	3.952	46.015
5	1.235	4.41	57.502	0.673	2.402	48.417	2.762	48.417

Role Conflict

**Reliability Statistics**

Cronbach's Alpha	N of Items
.728	4

Role Endorsement

**Reliability Statistics**

Cronbach's Alpha	N of Items
.872	5

Vision

**Reliability Statistics**

Cronbach's Alpha	N of Items
.912	8

Compassion

**Reliability Statistics**

Cronbach's Alpha	N of Items
.841	6

## Appendix F: Summary of Construct Operationalization (Study 3)

	Definition	Indicators
<b>Role Endorsement (reflective)</b>	Whether an individual is recognized by their peers and organization as having the authority to carry out that role.	<ol style="list-style-type: none"> <li>1. I feel that I am a leader.</li> <li>2. My peers acknowledge my authority.</li> <li>3. I have the authority that I need to carry out my role.</li> <li>4. I feel my leadership role is the same as what my title states.</li> <li>5. I feel that the organization provides me with the authority to carry out my (leadership) role.</li> <li>6. My leadership role is recognized throughout the organization.</li> </ol>
<b>Positive Relationships (P/NEA) (reflective)</b>	<p>The positive emotional attractor (PEA) triggers constructive cognitive and physiological responses that enhance an individual's openness and adaptive behaviors. The negative emotional attractor (NEA) triggers conversely may compromise an individual's effectiveness.</p> <p>There are three sub-constructs of PNEA, vision, compassion and overall positive mood. These three sub-constructs were analyzed as a single construct in this study.</p>	<p><b>Vision</b></p> <ol style="list-style-type: none"> <li>1. Management emphasizes a vision for the future.</li> <li>2. We often discuss possibilities for the future</li> <li>3. Our future as an organization will be better than our past.</li> <li>4. I feel inspired by our vision and mission.</li> <li>5. We are encouraged by management to and build on our strengths.</li> <li>6. Our work is focused on our vision or mission.</li> <li>7. Our purpose as an organization is clear in our vision or mission.</li> <li>8. Management emphasizes our current strengths.</li> </ol> <p><b>Compassion</b></p> <ol style="list-style-type: none"> <li>1. I do not feel trusted by my colleagues. *</li> <li>2. I feel trusted by my colleagues.</li> <li>3. I care about my colleagues at work.</li> <li>4. I do not trust my colleagues. *</li> <li>5. I do not care about my colleagues at work. *</li> <li>6. I trust my colleagues.</li> </ol> <p><b>Overall Positive Mood</b></p> <ol style="list-style-type: none"> <li>1. This is a great place to work.</li> <li>2. I enjoy working here.</li> <li>3. I do not like working here. *</li> <li>4. Working here is a joy.</li> <li>5. If I had a choice, I would work somewhere else. *</li> <li>6. Overall, it feels good to work here.</li> </ol> <p><i>* Note that the questions with an asterisk following are reverse coded.</i></p>
<b>Participation (formative)</b>		<ol style="list-style-type: none"> <li>1. Frequently makes [innovative] suggestions to coworkers. [Innovative replaced the original word, creative.]</li> <li>2. Encourages others to speak up at</li> </ol>

		<p>meetings</p> <ol style="list-style-type: none"> <li>3. Keeps well informed where opinion might benefit the organization.</li> <li>4. Does not pursue additional training to improve performance.*</li> <li>5. Does not push [peers and] superiors to perform to higher standards. ["Peers and" added to the original question.]*</li> </ol> <p><i>* Note that the questions with an asterisk following are reverse coded.</i></p>
<b>Controls</b>	<p>Age Gender Current Position Tenure Organization Tenure Part/Full Time Leadership Role</p>	<ol style="list-style-type: none"> <li>1. Age: How old are you?</li> <li>2. Gender: What is your gender?</li> <li>3. Current position tenure: How long have you been in your current leadership position?</li> <li>4. Organization tenure: How long have you been with the organization?</li> <li>5. Part/Full Time Leadership Role: Do you hold a part time or full time leadership role within your organization? Do you receive compensation for a part time leadership role within your organization?</li> </ol>

## Appendix G: EFA (Study 3)

### Positive Psychological Climate

#### Reliability Statistics

Cronbach's Alpha	N of Items
.953	20

### Role Endorsement

#### Reliability Statistics

Cronbach's Alpha	N of Items
.869	6

### Coaching and Mentoring

#### Reliability Statistics

Cronbach's Alpha	N of Items
.780	5

### Empathy

#### Reliability Statistics

Cronbach's Alpha	N of Items
.690	5

### Inspirational Leadership

#### Reliability Statistics

Cronbach's Alpha	N of Items
.797	5

### Influence

#### Reliability Statistics

Cronbach's Alpha	N of Items
.669	5

### Organizational Awareness

#### Reliability Statistics

Cronbach's Alpha	N of Items
.801	5

Teamwork

**Reliability Statistics**

Cronbach's Alpha	N of Items
.806	5

**Pattern Matrix<sup>a</sup>**

	Component	
	1	2
MOOD1	.925	
MOOD2	.867	
MOOD3	.859	
MOOD6	.852	
MOOD4	.843	
MOOD5	.806	
VIS7	.783	
VIS4	.775	
VIS6	.775	
VIS8	.774	
VIS2	.756	
COMP6	.691	
VIS5	.663	
COMP4	.635	
VIS3	.620	.178
VIS1	.591	
COMP3	.522	
COMP1	.499	.171
COMP5	.455	
COMP2	.382	.214
ROE1	-.195	.818
ROE2		.800
ROE6		.747
ROE4		.745
ROE3	.164	.713
ROE5	.252	.642

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

**Total Variance Explained**

Component	Total Variance Explained						Rotation Sums of Squared Loadings <sup>a</sup>	
	Initial Eigenvalues			Extraction Sums of Squared Loadings				
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %		
Dimension 0	1	12.704	48.862	48.862	12.704	48.862	48.862	12.327
	2	1.748	6.724	55.586	1.748	6.724	55.586	8.082
	3	1.546	5.944	61.530				
	4	1.044	4.016	65.547				
	5	.986	3.792	69.339				
	6	.894	3.439	72.778				
	7	.659	2.535	75.312				
	8	.584	2.245	77.557				
	9	.533	2.048	79.605				
	10	.492	1.894	81.499				
	11	.468	1.802	83.301				
	12	.459	1.766	85.066				
	13	.412	1.583	86.650				
	14	.393	1.512	88.162				
	15	.356	1.368	89.529				
	16	.337	1.297	90.826				
	17	.325	1.251	92.078				
	18	.318	1.224	93.301				
	19	.277	1.066	94.367				
	20	.271	1.043	95.410				
	21	.262	1.008	96.418				
	22	.237	.912	97.331				
	23	.219	.842	98.173				
	24	.178	.686	98.859				
	25	.162	.623	99.483				
	26	.135	.517	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.959
Bartlett's Test of Sphericity	Approx. Chi-Square	12678.255
	df	325
	Sig.	.000

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