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# The impact of practicing yoga on the organization : a study on stress reduction from the participants' perspectives

Tina Miao Hall

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The University of San Francisco

THE IMPACT OF PRACTICING YOGA ON THE ORGANIZATION:  
A STUDY ON STRESS REDUCTION FROM THE PARTICIPANTS'  
PERSPECTIVES

A Dissertation Presented  
to  
The Faculty of the School of Education  
Department of Leadership Studies  
Organization and Leadership Program

In Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Education

by  
Tina Miao Hall  
San Francisco, California  
December, 2009

THE UNIVERSITY OF SAN FRANCISCO

Dissertation Abstract

The Impact of Practicing Yoga on the Organization:  
A Study on Stress Reduction from the Participants' Perspectives Abstract

The following is an investigation into how yoga impacts the health of individuals within an organization and the health of the organization as a result of group yoga exercise. Those elements of yoga's impact that this research hopes to learn more about include both psychological health (attitude, morale, performance and perspective) as well as physical health (blood pressure, posture, flexibility and stamina) of the participant.

The research was conducted using open-ended interviews of twelve participants from the Bay Area who have been practicing yoga for over two years. The participants included members of seven different organizations and of varying employment levels (entry level, middle management, supervisors). From these interviews, various themes emerged and some general trends about what was effective about the yoga practice were derived.

Based on the interviews, themes of how yoga benefited the individuals included: self-awareness, stress management, improved physical health and improved psychological health. The interviews also established that individual stress levels negatively affected the organization so that both the quality of work suffered and the

work environment became inhospitable as a result of stressed members. Yoga was found to be of benefit on three levels: it allowed for greater bonding, mental or psychological flexibility and working out conflicts with less competition. Finally, yoga was found to benefit the organization's health insofar as client confidence grew and better work relationships were developed.

The results of the study demonstrated that yoga had beneficial effects in terms of managing stress through breathing techniques and increased self-awareness. There was also a fairly direct correlation between stress and negative work performance. The research also strongly suggested that yoga improved the individual's relationships with other members of the organization as well as improved the client/vendor relationships. Overall, the study found that yoga could improve the mental and physical health of its members and therefore, positively impact the organization to which the members belong.

This dissertation, written under the direction of the candidate's dissertation committee and approved by the members of the committee, has been presented to and accepted by the Faculty of the School of Education in partial fulfillment of the requirements for the degree of Doctor of Education. The content and research methodologies presented in this work represent the work of the candidate alone.

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## DEDICATION

This dissertation is dedicated to my beautiful mother and my lovely daughter.

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## CHAPTER I

### THE RESEARCH PROBLEM

“Speak what is truth, speak what is pleasant”

—Vedic II-1

#### Statement of the Problem

Job stress has become a major issue for management and organizations in recent years. According to the World Health Organization, job stress is a “worldwide epidemic” (Kusluvan, 2003, p. 378), and costs U.S. industries “\$200 to 300 billion annually as assessed by absenteeism, diminished productivity, employee turnover, accidents, direct medical, legal, and insurance fees, workman’s compensation awards and the like” (Kusluvan, p. 378). According to a recent survey conducted by the American Psychological Association, one-third of Americans are living with “extreme stress” and 48% of Americans “believe that their stress has increased over the past five years” (2007, p. 1). Of the nearly 2,000 individuals surveyed, almost all had significant levels of stress in their personal and professional lives, and almost all said stress impacted their relationships and health.

Stress at work can be costly to both individuals and to organizations (Cooper & Bramwell, 1992), and the relationship between occupational stress and health consequences has been well documented (Friedman, Rosenman, & Carroll, 1958). While the factors for stress are complex and varied, the vast majority of research has shown that the organizational health of a business is deeply rooted in the individual members’ physical and psychological health. Stressed employees jeopardize the success of a

business by not only being less productive but by also by creating an inhospitable work environment. As Ganster and Schaubroeck (1991) suggested, a healthy organization promotes higher organizational performance. According to these authors, work stress is “a causal agent in physical and mental disorders as well as organizational outcomes such as absenteeism and reduced productivity” (Ganster & Schaubroeck, p. 235). In recent years, much research has addressed the importance of individual health (Roizen, 2004), its relationship to the health of organization (Cooper & Cartwright, 1994), organizational effectiveness (Angle & Perry, 1981), and the importance of stress reduction in the workplace (Ganster & Schaubroeck). Less research has been done on how and to what extent mind–body exercise (Daubenmier, 2005) such as yoga practice, can reduce individual stress and make a health-inspiring impact on the morale, productivity, and work environment of an organization as a whole. It has been only in the last 5 years that research has analyzed how group dynamics, individual productivity, and overall effectiveness are influenced by collective yoga practice (Daubenmier). In Daubenmier’s article entitled “The Relationship of Yoga, Body Awareness, and Body Responsiveness to Self-Objectification and Disordered Eating,” the author described yoga:

A now popular form of mind–body exercise in the West cultivates a direct experience of the body. . . . Yoga entails moving the body mindfully through a series of poses, as well as stretching and balancing the body while in a single pose. Although yoga has many physical health benefits (including increased strength, flexibility and balance), the underlying goal is to unify mind and body. (p. 4)

The present research studied how the experience of yoga practice among employees impacts individual and organizational health. It studied the collective and communal experience of doing yoga in the workplace, and whether the yoga practice

affects stress levels of individual members of the team, as well as if and how it changes overall performance in organizations.

### Purpose of the Study

The purpose of this study was to investigate how yoga, as a group exercise for the mind and body in the workplace, impacts the stress level of the practitioners. In addition, this study evaluated the effectiveness of these activities in promoting a healthy organization by increasing the health of its members. This research provided one approach organizations could use to address individual and organizational health through the introduction of stress-reduction exercises at work. The reduction of stress may be considered one of the results of the practice of yoga, an exercise that promotes the awareness of and responsiveness to bodily sensations (Daubenmier, 2005). The study used the practice of yoga as a prime example of how organizational health can be improved through a collective activity that strengthens both the human psyche and the human body.

### Background and Need for the Study

Although yoga has been increasing in popularity in Western countries over the last 20 years, there have been relatively few studies (Daubenmier, 2005) dedicated to understanding whether yoga is truly effective and if it is effective, in what ways. This research added to the body of knowledge about what it is in particular that yoga might offer individuals in organizations as a way to develop human resources, alleviate work stress, mitigate conflict, improve job satisfaction, and develop models of organizational health. Because stress is so costly to businesses (an estimated \$200–\$300 billion annually



were lost for businesses as a result of absenteeism, employee turnover, injury, and unhappiness), it has become increasingly important from a financial perspective and from the perspective of human resources to discover those facets of the practice of yoga that might improve the physical and mental health of its practitioners (Kusluvan, 2003). This study worked to understand, listening to first-hand experience, what yoga does to relieve stress and promote the overall health of the organization.

As the United States moves toward monumental changes in its healthcare system, there is a pressing need to understand and develop more and more effective means of preventative medicine, because sky-rocketing healthcare spending is now an issue for every taxpaying American. In the last 10 years alone, a staggering number of Americans sought treatment for depression, doubling from 19 to 36 million between 1996 and 2006 (Mundell, 2009), and yet government spending on wellness care or other means to prevent depression is woefully insufficient. Although \$35–\$58 billion was spent on mental health alone (1996–2006), almost all of that money was spent on after-the-fact medication and treatment (Mundell). Only a small percentage of this money was used in a way that can prevent depression and mitigate its effects on those in the work force (Mundell).

Preventative care for employees' mental and physical health has become one of the key factors in contemporary management strategies. Interactive Health Solutions, Inc. shared their recent findings regarding how they have managed to save companies hundreds of thousands of dollars by promoting preventative care:

We work to stop the employee population of our client companies from trickling into the healthcare system due to a lack of *preventative care*, says Joe O'Brien, IHS president. "Doctors are not normally paid to prevent diseases. They are called on to treat them. What we are accomplishing with our clients is focusing on

healthy people who choose to remain that way.” Reducing Health Costs On The Job Medical problems carry a high price tag in lost productivity and poor service quality. For example employees who don’t get sick save money in medical costs. IHS calculates that on average, the 2008 Healthiest Companies in America spent \$1,280 less per employee on annual healthcare costs. Healthy employees perform better on the job. Rates of presenteeism (employees that are at work—but not performing) at the 2008 Healthiest Companies workplaces are 22 percent lower than non-participants. Population Health Management helps slow rising healthcare costs. A 2007 study by Zoe Consulting, Inc., Catawba, South Carolina, showed that, for IHS participants, the actual medical cost growth rate was 54 percent less than the medical cost growth rates for non-participants. (2009, p. 1)

Management’s interest in promoting as well as sustaining individual wellness is both an economical and a humanistic concern but this also means that the definition of wellness is one that must include a broader definition of human experience. The World Health Organization defined wellness as “not just the absence of illness but a state of complete physical, mental and social well-being” (Roscoe, 2009). Such an understanding of occupational health makes research on this topic more challenging: As Roscoe observed, “existing quantitative wellness instruments are inadequate for capturing the complexity of wellness” (p. 1). In other words, to understand the full picture of occupational health, wellness must include dimensions of social wellness, emotional wellness, physical wellness, spiritual wellness, and psychological wellness. Roscoe explained occupational wellness as

the level of satisfaction and enrichment gained by one’s work and the extent to which one’s occupation allows for the expression of one’s values. Furthermore, occupational wellness includes the contribution of one’s unique skills and talent to the community in rewarding, meaningful ways through paid and unpaid work. (p. 6)

Since the late 1990s, many businesses, small and large, have incorporated yoga in their employee-wellness programs. For example, MTV included yoga in their team-building retreat along with other sports; Nike, HBO, Forbes, Apple, and many others all

offered yoga classes, creating a trend that, as one fitness journalist described, transformed the mantra “Let’s do lunch” into “Let’s do yoga”(Wolfson, 1999, p. 45). However, despite the burgeoning interest in the ancient practice and the ubiquitous claims about the many benefits yoga has to offer at the workplace, little research has substantiated these marketable assertions (Daubenmier, 2005).

Because the principal of yoga practice seeks to improve the mind and the body (Patañjali & Feuerstein, 1989), this study aimed to discover an effective and humane way to strengthen and develop the mental and physical health of individual members, at the same time improving job satisfaction and quality of work, and potentially building bonds among members of an organization. In analyzing these claims as to how yoga practice may affect employees’ mental and physical wellness, by studying individuals’ levels of stress at work, the researcher developed some ideas for organizational management: investigating individuals’ attitudes, behavior, morale, and performance and relating those to work stress.

An organization with stressed workers has traditionally found difficulty in surviving over time (Ganster & Schaubroeck, 1991). The purpose of this research is to provide one possible approach to help organizations manage individual wellness by introducing stress-reducing exercises at work that include the practice of mindfulness. This study considered to what extent yoga, as a collective activity that promotes physical, mental, and psychological awareness, benefits the individual members of the organization as well as employer–employee relationships in the organization. With this information, future studies can be conducted to further explore what a mind-and-body exercise

approach can do for a group of individuals who have sometimes conflicting, sometimes mutual goals.

In summary, management styles that have been more common in organizations in Western culture have tended to overlook the benefit of group exercises that include a spiritual or psychological component. One of the problems facing the contemporary, often secular, Western workplace is balancing the drive for monetary goals with the needs of psychological and spiritual fulfillment. As a *New York Times* article, “Fringes vs. Basics in Silicon Valley” (Richtel, 2005) noted, “the abundant cafeteria, gymnasium and electronic arts gallery may not be enough to keep programmers content” (p. C1). In fact, the overall concept of health and contentment is strikingly absent from much of the critical literature devoted to successful management styles.

### Theoretical Framework

The conceptual framework for this study was based on human-resource and organizational-behavior theories, mainly by using Maslow’s (1943) theory of human motivation and Schein’s (1980) theory of organizational culture and learning as primary sources. Basing the research on Maslow’s idea that humans are motivated by goals in addition to personal gain (such as love and self-esteem), the study looks at the ways these goals might be realized by communal practice (yoga). Schein suggested that new forms of group dynamics evolve from such influences.

#### *Maslow’s Theory of Human Motivation*

Maslow’s idea of basic human needs—“physiology, safety, love, esteem, and self-actualization” (1943, p. 394)—can help explain how a group, organization, or society can

benefit from improvement in individual members' physical and mental health. Maslow stated "a healthy man is primarily motivated by his needs to develop and actualize his fullest potentialities and capacities" (p. 394). The five levels of basic needs represent not only the various conditions in which these basic satisfactions arise, but a foundation on which "certain more intellectual desires" (Maslow, p. 394) emerge. However, Maslow pointed out that the "average member of our society is most often partially satisfied and partially unsatisfied in all of his wants" (Maslow, p. 395). The idea of basic human needs suggests that an organization must take into account the individual members' physical and mental health for greater fulfillment. As Maslow indicated, a "healthy society would then be defined as one that permitted man's highest purposes to emerge by satisfying all his prepotent basic needs" (p. 394). Maslow's hierarchical theory of motivation provides an explanation as to why humans are unhappy (or fulfilled) in particular ways. Maslow argued that individuals (and therefore employees, in this context) are motivated in several ways to perform according to their desire to satisfy their different levels of needs.

Maslow stated,

Most behavior is multi-motivated. Within the sphere of motivational determinants any behavior tends to be determined by several or all of the basic needs simultaneously rather than by only one of them. The latter would be more an exception than the former. Eating may be partially for the sake of filling the stomach, and partially for the sake of comfort and amelioration of other needs. (p. 390)

Maslow (1943) identified and organized these levels of needs in their order of importance, even though this ordering is not "nearly as rigid as [it] may have implied" (p. 386). The hierarchy of these basic needs—physiology, security, sense of belonging, self-esteem, and self-actualization—seems to be itself up to individual predilection. For example, some may put more emphasis on self-esteem than on love, important in

understanding what makes for satisfaction from the employee's perspective. Satisfaction may go beyond merely satisfying the needs of the worker (i.e., some workers need respect or a sense of self-esteem more than caring, attention, or more conventional expressions of love from management). Maslow's work also allows for analyzing how managers assess what is going well to achieve job satisfaction. It provides easily accessible and readily quantifiable terms (i.e., Levels 1 to 5) that describe the various layers of human needs. Most importantly, Maslow's doctrine includes the term, *self-actualization*, which is a fundamental component in many schools of thought of yoga as well as an inherent goal in the practice of mindfulness (Feuerstein, 1998).

What separates strengthening exercise from the practice of yoga is the attention paid to the specific struggles, needs, and inner qualities of the yoga practitioner. To gain an awareness of these struggles, needs, and inner qualities is to achieve what Maslow termed self-actualization (1943). Although Maslow's concept of self-actualization belonged to a particular historical era, the essence of his idea—that self-fulfillment is both necessary and difficult to achieve—still holds true today. The awareness of one's body's stress and power, inner struggles, emotions, and unconscious thoughts is what creates the transformative effects of yoga (Feuerstein, 1998), and this emergence of the self (Team Ayurveda ThinkQuest, 2009) is precisely what this research investigated by looking at individuals' attitude, behavior, morale, and performance. This connection to Maslow was made explicit by Feuerstein in the observation that Hindu physicians, who through yoga practice cultivated tranquility, self-knowledge, and prudence, "incorporated self-actualization (in Abraham Maslow's sense) into their medical theory and practice"

(Feuerstein, p. 80). This life, Feuerstein points out, formed the basis for the pursuit of the spiritual value of self-realization.

### *Organizational Culture and Learning*

Schein's (1992) theory provided a framework to explain how positive influences (such as stress reduction) can work to develop a shift in ideas, values, and "culture" in the workplace. In other words, Schein's ideas suggested that changes (such as the collective experience of yoga practice that brings possible mental and physical change to individuals) can allow the culture of the workplace to evolve and make way for a paradigm shift to emerge. Schein stated,

the most useful way to think about culture is to view it as the accumulated shared learning of a given group, covering behavioral, emotional, and cognitive elements of the group members' total psychological functioning. For shared learning to occur, there must be a history of shared experience. (1992, p. 17)

Schein's (1992) view on organizational culture is helpful because it suggested that it is not merely group exercises that impact the overall health of an organization but rather a shift in culture—a change in the way of looking at one's own health and the welfare of the communal whole. Schein saw that workers have a need for identity in the working group. The "human need for parsimony, consistency, and meaning will cause the various shared elements to form into patterns that eventually can be called a culture" (1992, p. 10). Schein observed that some new workers have a need to display understanding and exercise their skills in ways that may not be possible in the workplace, and it will take some time to build a common culture: "The new members' interaction with old members will be a more creative process of building a culture" (1992, p. 19), but like Maslow, Schein saw human needs varying according to a person's state of

development and place in life. For example, a new member in an organization may have different needs from those of old members in an organization.

### Research Questions

This study investigated how the practice of yoga affects organizational health by looking at individual member's level of stress in attitude, behavior, morale, and performance, from the perspective of the participants (members of the organization). The following research questions were explored in this study:

1. How does yoga affect an individual's stress levels?
2. How does an individual's level of stress affect the organization?
3. How do the relationships between members of an organization benefit from group yoga exercise?
4. How does the organization's relationship with other organizations benefit from group yoga exercise?

### Definition of Terms

The following terms are used in this study:

*Astanga yoga (raja yoga)*. "The 'Royal Yoga,' the system of concentration and meditation, based on ethical discipline" (Satchidananda, 1990, p. 244); the "Yoga of eight limbs: another name for Raja Yoga" (p. 238). In this study, it means the practice of yoga primarily through meditation and spiritual discipline.

*Hatha yoga (yoga mudra)*. The physical aspect of yoga practice, including "postures (asanas), breathing techniques (pranayama), seals (madrads), locks (bandhas)



and cleansing practices (kriyas)” (Satchidananda, 1990, p. 240). “The symbol of Yoga; a posture which awakens the spiritual force within the individual” (Satchidananda, p. 248). In this study, hatha yoga means the practice of yoga that focuses primarily on the physical movements of the body that are intended to awaken the spiritual force of the body.

*Health.* In this study, health is taken to mean physical states of being free from illness or injury (Oxford University Press, 2002) that include mental states allowing for feelings of contentment, expansiveness, satisfaction, and spontaneity.

*Karma yoga.* “Performing actions as selfless service without attachment to the results” (Satchidananda, 1990, p. 242). In this study, karma yoga is defined as a later stage of yoga practice in which selflessness is attained through the development of a spiritual attitude during the yoga practice.

*Patanjali Maharsi.* A Yogi and sage who compiled the Yoga Sutras (threads), considered to be the “Father of Yoga” (Satchidananda, 1990, p. 243). This refers to the yoga spiritual guide and teacher, Patañjali, whose Sutras were later translated by scholars (e.g., by Feuerstein, 1998; Satchidananda, 1990) for the purpose of studying and understanding yoga practice. For the purposes of this study, Patañjali was considered to be an individual even though this is disputed by some scholars who believe that Patañjali Maharsi was a name attributed to a group of scholars (Feuerstein).

*Self-actualization.* “[T]he desire for self-fulfillment. . . . The desire to become more and more what one is, to become everything that one is capable of becoming” (Maslow, 1943, p. 382). In this study, self-actualization is taken to mean the individual’s achievement of a greater connection to one’s sense of self and one’s authentic desires.

*Stress awareness.* The individual's ability to acknowledge the impact of stress on the body, given that stress is a "complex pattern of emotional states, physiological reactions and related thoughts in response to external demands" (Treven & Potocan, 2005, p. 641). In this study, stress awareness is the individual's capacity to sense their own physical and psychological states of being.

*Stress in the workplace.* In this study, stress in the workplace means particular "occupational pressures" (American Institute of Stress, 2009, p. 4) such as conflict, work load, and time constraints.

*Stress reduction.* In this study, stress reduction is understood as any means by which there is a diminishing of the individual's physical and mental reaction to pressure. In general, stress reduction is the "attention to the individual methods for managing stress" (Treven & Potocan, 2005, p. 643).

*Sutras.* Sutra, which literally means rope or thread that holds things together, is a literary composition based on short statements intended to instruct. These texts were to be memorized by students for scriptural or scientific study. "As [Patañjali] expounded [his] thoughts, his students jotted them shorthand using just a few words which came to be called the Sutras" (Satchidananda, 1990, p. 1). In this study, sutras are defined as the source of the ideas on which the practice and tradition of yoga is based.

*Yoga.* Yoga literally means union. For some, this has come to mean union of mind and body, and for other scholars this union is the "union of the individual with the Absolute" or "any course that makes for such union; unruffled state of mind under all conditions" (Satchidananda, 1990, p. 248). In this study, yoga means a practice of mind and body exercise.

*Yoga practice.* In this study, yoga practice is the act of rehearsing the movements, poses, methods of breathing, and mental exercises of contemplation based on the “inspiration and practical guidance of Patañjali through the illuminating vision of the modern master Sri Swami Satchidananda” (Satchidananda, 1990, p. xiv).

### Significance of the Study

The significance of this study is to understand more fully how ideas about the physical and mental health of members (owner, managers, and employees) contribute to the overall health of organizations (small businesses, medium and large organizations) through the communal practice of mind–body exercise. If, as Creswell (2003) suggested, the significance of a study is “to convey the importance of the problem for different groups that may profit from reading and using the study” (p. 107), the significance of this study is to address how the detrimental effects of stress for various organizations might be mitigated or remedied by offering yoga to all members of these organizations (entry level, middle management, supervisors, and owners). If the findings of this study are persuasive, yoga could be one of the most effective means of promoting a healthy and growth-oriented organization.

Stress is perhaps the most important factor in occupational health, impacting both individuals and organizations as a whole. This study researched the benefits of mind and body exercises as a way of promoting the overall health of the organization by considering how yoga impacts the health of individuals in the organization. How to manage, mitigate, and understand stress has become a multimillion dollar industry. One approach to helping individuals manage this problem is through the introduction of stress-reduction exercises at work; the practice of yoga may be considered one unique

and powerful mode of stress-reduction exercises. This study strongly suggests that introducing a yoga practice at the workplace correlates to the overall health of the organization as a function of the individual members' mental and physical health, and provides an important step in creating work environments hospitable to long-term success. This study suggests that yoga is a resource for business practitioners and managers to reduce stress for employees and increase the overall productivity of the organization. The practice of yoga can be interpreted in different ways: some people practice for fitness reasons, some for meditation purposes, some for religious reasons, and some for a combination of these. All these motivations were useful and welcome for the study's purposes.

The overall performance of a business or government agency depends on the productivity of the members, and yoga provides a clue about how to gain the most from human assets, as theories of business organization and planning continue to evolve. The resolution of conflicts between individuals in the workplace as well as close attention to the mental and physical health of its members are important determinants in what comprises a healthy organization (Morgan, 1997). If members of an organization are discontented and stressed from their work, eventually the overall performance of the organization will be negatively affected. An organization with stressed workers will not be able to survive over time.

It is essential to look further into the possibility of developing a management strategy to help maintain the health of employees and to integrate this concept as part of management strategies that aim to maintain the well-being of employees, bring balance and harmony to the workplace, and foster the quality of individual contributions to the

organization. The effectiveness of an organization depends on the ability of its managers to “meet the need of their followers” (Hersey & Blanchard, 1979), including, physical health, mental health, and a healthy work environment.

### Delimitations of the Study

One of the delimiting factors of this study is that different perspectives held by each respondent might work to obscure rather than clarify what is beneficial about yoga practice: All the research data came from self-reporting through the interview process. There is something to be gained and something lost in this method. On one hand, this method’s strength is that the respondents know their own inner feelings of stress best and can use their own words to help explain the complexity of yoga’s benefits. The weakness is that there is no additional observable measure (such as a behavioral marker) to standardize the data. There are inevitable differences in the interpretation of “yoga practice” (many different types of yoga).

Another delimiting factor of this type of study is researcher bias. The researcher has personal experience with the subject of the research and currently practices yoga and makes professional yoga instruction available free to employees at work three times a week. These factors can be seen as both strengths and weaknesses. This first-hand knowledge might have helped make the survey and interview probes (as well as the analysis of the research) more informed and accurate. On the other hand, the direct experience could have reduced the researcher’s objectivity.

Differences in respondents’ varying interpretation of terms of the study (attitude, morale, wellness, health, etc.) is also a delimiting factor. Participants, again, benefit from

having room to interpret these concepts as necessary, but no standard has been imposed for terms such as *attitude*, *behavior*, *morale*, *performance*, and *stress level*; all have various meanings. This can make any conclusive finding elusive. As with other qualitative studies, the findings are subject to “other interpretations” (Kunes, 1991, as cited in Creswell, 2003, p. 149). This is also the strength of a qualitative methodology insofar as it allows the researcher to obtain more descriptive data—a method that was more appropriate for the purpose of a study interested in exploring the nuances of what it means to decrease stress, increase the health of an organization, and grant psychological freedom. The danger is that the findings are limited by what respondents’ view as attitude, behavior, and morale, and the understanding that these terms may not correspond to the way in which others inside or outside of this study understand these terms.

The reliability of participants to answer questions honestly is another delimiting factor. One of the factors that might interfere with genuine responses to questions could include a wish to please the interviewer, embarrassment about the lack of yoga’s impact, time pressure during the interview, or social pressure in, for instance, the yoga community to extol the virtues of the practice.

#### Limitations of the Study

There is limited scope in population due to location (the San Francisco Bay Area). The study was constrained to the Bay Area, which, in comparison to the rest of the United States, has an unusually strong yoga culture. This might produce findings that would not apply to other regions. This limitation causes the researcher to view the study as a site-specific piece of a larger research puzzle. This researcher hopes future scholars

will continue to look into the possible benefits of yoga for organizations and their members. Finally, because participants are typically residents of yoga-friendly San Francisco, the culture of yoga may encourage enthusiasm rather than merely viewing yoga as one of many forms of good exercise.

Sample selection was limited to the San Francisco Bay area. This study was confined to an identified population of people who practice yoga (aged 18 and older) in yoga studios in organizations in the Bay Area. Because this study was restricted to Bay Area organizations, generalizations about yoga practitioners in other geographic areas may not be applicable. The Bay Area population is known to be more accepting of nontraditional workplace traditions (such as yoga and group exercise in general). This means that regional proclivity to associate yoga with a positive experience could be a factor. Furthermore, this study also focuses solely on yoga and not on other forms of group mind-and-body exercises commonly found in Eastern culture. The findings of this study may or may not be applicable to other group exercises found in Eastern culture (Tai Chi, meditation, martial arts, etc.). Finally, because of the age constraints, this study's research might not apply to children and young adults who practice yoga at a work environment or at a school setting.

This study has a relatively small sample size, due to time and resource constraints. The researcher does not have the resources for a longitudinal study or a wide geographic sample. Ideally, this research correlated yoga practice with employees' attitudes, stress levels, and morale over a 3- to 5-year period. Thus, the researcher observed gradual change that could provide more conclusive and informative findings. The researcher offset the disadvantage of the time constraint by finding respondents who differed in the

length of time they have been practicing yoga while working, which could provide insights about the correlation between yoga practice and an employee's attitudes, stress levels, and morale over time, with consideration for the differences between individuals.

### Summary

Chapter I of this dissertation identified the problem of stress at the workplace and raised the question of how the collective experience of yoga practice might impact individual mental and physical health as well as that in the overall workplace environment. The purpose of this study was to answer a need for further research into the effects that mind-body exercise has on workplace culture and individual stress levels. Chapter I also situates the study in theories about human resources, in particular focusing on Maslow's (1943) ideas concerning human motivation and achievement as well as Schein's (1980) novel concepts about how change occurs in organizational culture. The chapter outlined research questions and definitions of terms used in this study, what significance from the study might encourage further research, and also considered what factors might have limited this research.

Chapter II looks at the related literature on the topics of organizational health, stress, and how stress affects individuals and organizations, followed by a brief overview of the history of yoga, and what current medical literature has contributed to the broader understanding of yoga's health benefits. This section will also look at the work that has been done on yoga as a stress-reducing tool. Chapter III focuses on the methods and research design of the study, with careful attention to the instrumentation, data collection, and analysis of the material. Chapter IV presents the findings of the study; chapter V



discusses the findings, and describes the conclusions and recommendations for future research.

## CHAPTER II

### REVIEW OF THE LITERATURE

#### Overview

The purpose of this literature review is to provide a framework to conceptualize how yoga practiced in the workplace might play a role in stress reduction and benefit the organization as a whole. The literature review will discuss the following themes: theories about organizational health; stress and how it affects individuals and the organization; historical background on the various traditions of yoga practice; the benefits of yoga as a mind and body exercise; and the stress-reduction effects of group exercise (such as yoga) in the context of management strategies.

This research examined how yoga practice in the workplace affects the overall health of the organization as a function of the individual members' mental and physical health. This study helps to understand how yoga may reduce stress, improve the health of the individual and, as a result, the health of the organization. The review, therefore, is largely concerned with research and studies having to do with occupational stress indicators, and yoga as a method of stress reduction. It will devote some space to looking at those areas of organizational management that specifically study the impact of group exercises on group dynamics and social interactions in the workplace. The relationship between individual health and the overall health of the organization, how to measure physical and mental health, what is meant by *health*, and how group exercise in the workplace impacts shifts in culture are all questions that will be addressed in this review.

The first section of this literature review is devoted to various theories on organizational health that emphasize human resources and in particular the physical and

mental health of the individual members. The focus in this section will be on theorists who looked at how individual health contributes to workplace culture (including a deeper understanding of what defines health, happiness, and fulfillment), as well as how the workplace impacts the health of the individual employee, and ideas about how those environments can or cannot change. Roethlisberger's Hawthorne Studies (1941), and Maslow's theories (1943) of what defines individual happiness, as well as McGregor's (1957), Schein's (1980) and Pfeffer's (1997) theories on the shifts in environmental culture are all important contributors to the idea of how a particular type of communal mental and physical exercise such as yoga can positively impact the health of the workplace and the individual practitioners.

The next section will discuss stress because individual stress is a common obstacle to the health and success of organizations. There has been a great deal of research about how to think about managing struggles and diminishing the levels of stress at work. The literature review will discuss the research that has been conducted on how stress affects individuals and organizations, and stress reduction in the workplace, focusing in particular on the deep-seated ties between physical activities and mental states of the individual. For instance, Cooper and colleagues (C. L. Cooper & Bramwell, 1992; C. L. Cooper & Cartwright, 1994), and D. R. Cooper & Schindler (2001), proponents of the importance of individual mental and physical health, surveyed a great many alternatives to common workplace stressors and provided a number of ways to think about how management can alleviate work stress through exercise, workplace layout, and the home-work interface.

The third section of this literature review will include a brief look at the historical background of yoga, including its introduction to and legacy in Western culture to help illuminate the complex relationship between yoga as a physical exercise and as a spiritual practice of the mind and heart. Also included in this section will be an overview of what is known about the health benefits of yoga, including the physical, psychological, and emotional aspects of human health. It will identify key concepts to help clarify how yoga could be said to achieve the effects and benefits to an individuals' mental and physical health. The concept underlying this section of the literature review is that yoga practice promotes not only individual mental and bodily health but enables greater organizational health by diminishing overall stress and allowing for greater states of self-awareness as a result of the practice. It will comprehensively explore what is known in medical science about the ways poses and postures of a yoga practice impact various systems of the body: musculoskeletal, neural, respiratory, and cardiovascular. This section will also cover how controlled breathing exercise puts pressure on the glandular systems of the body (American Yoga Association, 2009, p. 1) as a way of improving circulation and has positive effects on the "nervous, respiratory and cardiovascular systems" (Coulter, 2001, p. 15).

The last section of this literature review will survey the materials that have focused on stress reduction at the workplace as a result of communal activities, such as yoga, that have had a strong psychological, emotional, or spiritual component. This section will present research that has been conducted on how the practice of group exercise can contribute to a shift in the organizational culture from a hierarchical to a more egalitarian culture of shared values, practices, and goals. One form of stress-

management intervention popular in Eastern culture, only occasionally used in the West, is group exercise (Morgan, 1997) such as Tai Chi, judo, and self-defense. Yoga, however, is a physical practice with an important difference from other types of exercise: it includes a psychological component—mindfulness. Because this study explored how practicing yoga reduces both physical and mental stress in order to improve how well the group functions as a whole, mindfulness is an essential part of what differentiates yoga from other forms of group exercise. Given the unique character of yoga and its many traditions, a crucial component is its psychological aspects of stress reduction.

### Theories Related to Organizational Health

One of the first studies to discuss the importance of the management of human factors in the organization was that by Roethlisberger (1941), studying the effects of the work environment and concluding that workers were more productive when they were noticed by management. This was one of the first scientific studies to recognize the impact of human emotions on productivity (in contrast to productivity being solely a factor of the scientific management of resources such as materials, work schedule, and production-line operations). Roethlisberger explained the unintended result of this research in the following way: the human problem is “to be brought to a human solution” and the problem of productivity requires “human data and human tools” (Roethlisberger, 1941, p. 9). Roethlisberger illustrated this in a study performed with Western Electric researchers. Mayo and colleagues conducted a study from 1927 to 1932, examining the physical and environmental influences of the workplace and employees’ productivity using a case-study research design. Their original research questions and hypotheses were focused on the relationship between “the quality and quantity of illumination” and the

“efficiency of industrial workers” (Roethlisberger, p. 9). They assumed that productivity changes when the physical environment of the workplace changes. The original 1941 study led by Mayo et al. was based on the study of two groups, the “test group” and the “control group,” at the Hawthorne Plant of the Western Electric Company in Illinois. The test group was given more light to illuminate their work, whereas the control group was given the typical lighting.

The study found that productivity went up for those given the greater illumination even though the researchers could find no correlation between the illumination and the ability of the worker to produce the product. Other variables were discovered during later research when the interview process was added. This study led to a conclusion that productivity increased due to an employees’ deep psychological need to believe that someone cared about them, that there was someone who had the time to listen to them. By looking at Roethlisberger’s work (1941, led by Mayo), research that contributed to what is often called the Hawthorne Effect, one can recognize how factors such as the feeling of being observed in the “culture” of an organization can contribute to the overall productivity of the individual. As Roethlisberger’s work shows, the normal behavioral aspects of the individual are overridden when influence is exerted on the patterns of behavior for goal management (Buchanan & Huczynski, 2003). Even though the results of the study were unexpected, it became a framework to prove that employees respond when they believe they matter. It brought new evidence that productivity was related to factors other than scientific or bureaucratic rules set by previous theorists (Fayol, 1949; Taylor, 1916). These earlier theorists emphasized the importance of the mechanics of

managing organizations, mostly in technical, commercial, financial, and managerial areas, excluding the human factors in the organization (Shafritz, Ott, & Jang, 2005).

Although there are weaknesses in Roethlisberger's (1941) research design, such as errors, biases, and omissions, the contribution of his case study is important to better understand that being thought about as individually valuable influences the individual in the organization. Roethlisberger and colleagues initiated a type of research focused on how and why basic human needs of feeling connected to employers impact individuals' attitudes, behavior, morale, and stress levels.

Katz and Kahn (1966) continued in this vein with research that introduced the theory of Open Systems. They claimed that to interpret and understand systems fully, one needs to look at the importance of social relationships and organizational environments. Katz and Kahn suggested that organizations can be seen from the perspective of an input, transformation, and output cycle. The internal environment (interactions with members of the organization) impacts the external environment (response to environmental changes) and vice versa. Internal and external environments continuously receive feedback (Katz & Kahn).

Katz and Kahn's (1966) open-system assumptions demonstrated the importance of how members of the organization interact with the social environment, also seen in earlier studies. For example, the Hawthorne studies (1927–1932) focused on employee interactions in the organization, how they interpreted environmental changes, and how this interpretation affected employee behavior and productivity. The Hawthorne studies validated Katz and Kahn's theory, in that social interaction and members' interpretation of events in the organization affects productivity and employee behavior. This open-

system concept recognizes factors that affect an organization's essential performance. It is important for an organization to recognize internal and external social environments and how members in the organization interact and comprehend changes. Yoga practice may be one way that members of an organization improve relationships and strengthen the sense of community from these interactions.

To consider the ways in which individual health might be measured, the present study used Maslow's (1943) theory of human development as an organizational model of overall health. Maslow's model offered a way to define health and suggested health is not merely a physical need but a need for human fulfillment—a broad category that certainly means different things to different people but is nonetheless a necessary component and important goal for developing human resources.

Maslow's theory (1943) initiated consideration of human resources as an important factor. Maslow described the evolution of psychology in four stages: (a) Freudian, psychoanalytic psychology; (b) behaviorism, schools of behaviorist thought; (c) humanism, humanistic psychology; and (d) transpersonal psychologies (Maslow, 1943, as cited in Boeree, 2009, p. 7). Maslow formulated the "third stage" of this development of psychology. His hierarchical theory of motivation provided an explanation as to why humans behave in certain ways. Maslow argued that individuals (and therefore employees, in this context) are motivated to perform according to their desire to satisfy their different levels of needs. Maslow identified and organized these levels of needs into five incremental categories in their order of importance: physiology, security, sense of belonging, self-esteem, and most importantly, self-actualization (Maslow, p. 394).



Maslow's (1943) theory is useful in business management because it supplies the tools to accurately measure each individual's experiences and how well workers are fulfilled by their employment. Maslow's levels can be used as a way to understand the different ways that employers might work to satisfy employees so that their behavior and job performance go beyond what they thought possible. Maslow's thinking allows for greater depth of understanding in what makes for satisfaction from the employee's perspective—satisfaction that goes beyond merely satisfying the basic needs of the worker.

Maslow's (1943) work supplied a framework to analyze how managers assess what is going well in job satisfaction. It provided easily accessible quantifiable terms that describe the various strata of human needs (i.e., the five basic levels of human needs, Levels 1 to 5). Most importantly, Maslow's doctrine incorporates the concept of self-actualization, which is a fundamental idea in the practice of yoga as well as an inherent goal in the practice of mindfulness (Feuerstein, 1998). What separates strengthening exercise from the practice of yoga is the attention paid to the specific struggles, needs, and inner qualities of the yoga practitioner. To gain an awareness of these struggles, needs, and inner qualities is to achieve what Maslow termed self-actualization—the “realization of (one's) potential for such higher moral values as self-transcendence, love, compassion, integrity, creativity and wholeness” (Maslow, 1971, as cited in Feuerstein, p. 433).

Maslow's insight about human happiness was that this final level of self-actualization speaks to a human need beyond survival and beyond the acquisition of money. Although there is only a small percentage in the population that actually reaches

the self-actualization stage (such as Eleanor Roosevelt, Abraham Lincoln, Thomas Jefferson, Mahatma Gandhi, and Albert Einstein), Maslow suggested that anyone can achieve greatness (Maslow, 1943). His theory is powerful because it attempted to answer the question of why certain people were able to achieve great things while others achieved less, even though in many cases the difference was not a lack of resources. In other words, there were people who were smarter, wealthier, better connected, and more socially prominent than those people who achieved greatness, but these were not the determining factors. Somehow certain people managed to achieve things that were quite special despite fewer resources. Maslow characterized these people as “reality centered,” “problem centered,” with a “different perception of means and ends.” They were also people for whom meta-needs (truth, goodness, beauty, unity, aliveness, uniqueness, perfection, completion, justice, simplicity, richness, effortlessness, playfulness, self-sufficiency, and meaningfulness) were as important as survival needs (Maslow, 1943, as cited in Boeree, 2009 p. 5). Maslow described that when “self-actualizers” could not get their “meta-needs” met, they responded with “meta-pathologies” and developed isolation, alienation, depression, and despair (Boeree, 1997). In a postindustrialized society, Maslow argued, more people have an opportunity to have their basic needs met and therefore more people are able to reach the final level of self-actualization (Shafritz et al., 2005). Perhaps this is one of the causes of stress or depression in so many members of the community; the need for stress reduction is an important management strategy.

Maslow (1943) was one of the first social psychologists to suggest human happiness is a complicated process in which, only after basic human needs are satisfied, can spiritual, emotional, and psychological needs be sought and fulfilled. To put it

another way, physical needs alone do not amount to human happiness but form the basis for further needs that include the person as a whole. The hierarchical theory of motivation provided some explanation for why humans behave in certain ways. Maslow believed that individuals/employees are motivated to perform according to their desire to satisfy their different levels of needs. Maslow stated that only when each of the five levels of needs (physiology, security, sense of belonging, self-esteem, and self-actualization) is satisfied, would an individual be able to pursue the next level of needs (Shafritz et al., 2005).

This theory not only applies to the working environment, but also can help explain how yoga can be used as a way of addressing these modern ills. It is important to management in an organization, because when this theory is applied to a business environment, management may be able to interview employees and attempt to understand what their needs are and how (or why) they are not being fulfilled. This process would provide helpful information for management, enabling employees to perform better at their jobs. If management becomes aware of employees' attitudes, behavior, morale, and performance, and understands where they are in a hierarchy of needs, it would be easier to manage employees and therefore produce happier employees and increase the quality of work. Because the business environment has become extremely complex and continues to grow and change, a modern philosopher, Wilber (1996) expanded and updated Maslow's theories in his "four quadrants" (intentional, cultural, behavioral, and social). Wilber's work could be seen as occupying what Maslow described as the fourth stage of psychology, the "transpersonal psychologies" (Maslow, 1943, as cited in Boeree, 2009, p. 6).

Wilber's (1996) ideas can also be applied to modern management as they offer explanations for human behavioral changes. This new paradigm can also be helpful as a way to assess how yoga can be used to allow for greater opportunity for self-actualization. For instance, if an organization can adopt Maslow's (1943) theory as a preliminary basis for staff evaluation and Wilber's theory to further understand and analyze the deeper needs of the staff, there is a greater chance for management to provide a working environment that is harmonious and productive.

Roethlisberger's Hawthorne studies (1941), Katz and Kahn's open-system theory (1966), Maslow's human-motivation theory (1943), and Wilber's four-quadrants theory (1996) provided alternative explanations for how yoga might help alleviate some work-related stress. These studies recognized not only what yoga does to the individual, internally and externally, but also how the individual feels in relation to the workplace as a whole. In other words, it is not merely the practice of yoga that helps improve the individual's physical, emotional, and psychological health, but that it is practiced in a group with coworkers and employers that provides a key to understanding the potential of its impact on an organization.

Although employees are essential in an organization, how methods to improve human resources are implemented is the important question that this research addressed. Attitude, behavior, motivation, and stress level are important dimensions to the overall health of the individual, but how these might be improved also depends on the sensitivity to what type of relationships are being established or assumed by the employer in doing so. In other words, it is not merely the method by which the health of single individuals might be improved but how that method is implemented. In the present context, not just

yoga, but yoga at the workplace. This is true because how the method is applied to the situation always implies a relationship between employer and employee and speaks to how individuals are (or are not) valued as individuals (Roethlisberger, 1941)

Social psychologist McGregor (1957) offered ideas about the study of human behavior. McGregor's main contribution to the management field was Theories X and Y, which provided a different interpretation of the practice and thinking of management. McGregor distinguished between two different assumptions about the motivations for workers or members of an organization. McGregor integrated the Hawthorne study (Roethlisberger, 1941) and Maslow's (1943) hierarchy of needs into his own conclusion that Theory Y is the most effective. Theory Y represented an open-minded cooperative attitude toward employees. McGregor's Theory X indicated that most people dislike work and would avoid it when possible, and therefore people must be supervised; because workers are not ambitious, they would like to be directed; and workers place job security over creativity. (This practice could be associated with a dysfunctional organization if it is not addressed carefully.) McGregor (1957, as cited in Shafritz et al., 2005) disapproved of a Theory X-management attitude and promoted Theory Y, the idea that workers are motivated and would accept responsibilities under normal conditions, and seek to be creative if they are given the opportunity. McGregor attempted to bring employees and management into a closer relationship and worked to guide management to more humanistic thinking toward employees rather than managing authoritatively. Thus, managers facilitate and initiate control over the process but are open to receiving feedback from employees and to rewarding employees for their good work. This concept represented a gradual advancement in sophisticated management during the 1960s.

During the 1970s, many organizations, reacting to economic changes, became interested in how better to understand the ways in which human resources were impacted by managerial decisions. Pfeffer and Salancik, in 1978, researched the ways organizations responded to environmental changes and how a “distribution of power” affected organizational decision processes (Salancik & Pfeffer, 1978 as cited in Guthrie, Grimm, & Smith, 1991). In other words, as business environments change, “organizations adapt to their environments” and, conversely, the “environments constrain and affect behaviors” (Pfeffer & Salancik, 1978, p. 1). This means, among other things, that the goals of organizations and their members continue to shift. Although profitability remains of primary importance, it is not the only goal or task to maintain the health of an organization. Organizations need to be innovative and ready for internal and external environmental changes because the responsibilities of an organization are not limited to its own internal environment but also include its external environment (Pfeffer & Salancik). To ensure that an organization can carry out the obligations necessary for its survival, one of its most important components—human resources—must be well managed (Pfeffer, 1998). Pfeffer pointed out that cultivating an environment hospitable to strengthening human resources is important and a change in attitude and morale can give rise to a new environment (which can in turn usher in great changes in an organization).

In *The New Directions for Organization Theory: Problems and Prospects* (1997), Pfeffer illustrated the causal effect of five models of human behavior on organizations: economic, social, rational, moral, and cognitive–interpretive (p. 43). Pfeffer argued that “organizations are not self-directed and autonomous. They need resources including

money, materials, personnel and information” (Pfeffer, 1997, as cited in Pugh, Hickson, Zagumny, & Peterson, 1997, p. 62). But in order for these elements to be valuable, human resources need to be understood for the individual’s potential to be unleashed (Pfeffer, 1997). The problem is that without an awareness of the physical and psychological health of the individuals, management will continue to fail to address some systemic conflict, and will reinforce a power imbalance between employers and employees, handicapping the performance of the members. Human resources is the “scarcest resource in most organizations” (Pfeffer, 1998).

The individual members of an organization play an essential part in contributing to the overall performance and health of the entity. As Pfeffer suggested, “organizations ... [are] being controlled by human consciousness and attentiveness” (1997, p. 77). But how to manage human resources humanely and effectively has been the source of ongoing debate for organizational managers. In today’s business climate, there is a greater awareness of the nonmonetary rewards employees receive at the workplace (Richtel, 2005), yet not enough businesses have dedicated efforts to improving the overall health of the organization by investigating individual mental and physical health. Resolution of conflicts between teams or individuals in the workplace tends to focus on power dynamics (Pfeffer, 1997) and often does not involve much awareness about the mental and physical health of each member. However, increasing attention has been given to how important mental and physical health are for the members of a healthy organization (Morgan, 1997). If members of an organization are discontent with their working conditions or if they simply question their role in the organization and become disconnected from their work, then eventually the overall performance of the

organization will be greatly affected. A dysfunctional organization (Bradford & Harvey, 1972) will not be able to survive in the long run or even survive through any major innovation period (Ganster & Schaubroeck, 1991).

The importance of Pfeffer's (1997) study is that it highlights the importance of how individuals in the organization interpret events and create new landscapes as a result of these interpretations. In the 1980s, Pfeffer studied the changes in forms of employment; there was a gradual detachment of physical and administrative control, and a gradual extension of the duration of employment in organizations. Subcontractors and part-time help were replacing full-time employees (Pfeffer, 1981 as cited in Shafritz et al., 2005). Pfeffer described the external organizational environment that affected this changing dynamic in the labor market. In 1998, Pfeffer stressed the importance of human resources in his work and argued that leaders of an organization need to pay attention to valuable skilled labor because of the scarcity of human resources (Pfeffer, 1998) and because human resources are the main way to determine the profitability of an organization. Because it is essential for organizations to keep up with product efficiency, technological change, marketing, and finance, organizations need not use only skilled employees to achieve these functions, but these goals are enhanced by mentally and physically healthy employees. Pfeffer's main contributions to this field are his work on how organizational internal dynamics relate to the external environment in power and leadership.

The review of Pfeffer's work confirms the need for research on the benefits of an organizational-management style that aids in human-resource management and employee conflict resolution. The present study assessed the introduction of one management



strategy through group mind-and-body exercises as a way of promoting the overall health of the organization: a group exercise such as yoga impacts the health of the individuals and organizations. The question is two-fold: How does one assess, measure, and analyze both individual health and organizational health? And what role does yoga play in creating, maintaining, or achieving these levels of psychological, emotional, and physical health? The difficulty of this task does not outweigh the importance of the findings.

Organizational theorist, Schein, defined “culture” as “a pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration” (Schein, 1992, p. 12). Schein argued that each individual internalizes the organizational environment and develops as a member of a group that is conceptualized in the culture that exists in an organization (Schein, 1980). Schein also emphasized the importance of the need for management to promote and guide its members toward positive influences and eliminate negative factors that would hinder organizational growth. Each organization goes through a learning process and eventually develops its own way to cope with problems or react to crisis. Understanding the culture of an organization is the first step in explaining members’ behavior and performance. Schein laid responsibility on management to lead its members toward a healthy culture and positive environment. The researcher also suggested the “critical roles” of managers to “notice changes in the environment, then to figure out what needs to be done to remain adaptive” (Schein, 1992, p. 383). Schein’s concept is especially important in today’s business climate, where work stress plays an important role for its members. Building a shared-value system among its members may help to alleviate stress; one option for this

shared-value system can be through group exercise, or specifically yoga, which espouses values of balance and harmony.

How to bring these values into the work culture is a complicated question. Theorists like Burns and Stalker (1961) identified a relationship between an organization's environment and an organizational structure. These theorists helped initiate discussions about how best to make changes in the work environment in a way that benefits all. Burns and Stalker identified the two extremes of organizational environment: "stable" organizations in a stable environment tend to be formal, rigid, and mechanical organizations in which a traditionally bureaucratic organization is typical; and organizations in "unstable" environments are more prone to change and are called "organic" organizations. The "organic" organization in today's business environment is more efficient, although some mechanical organizations still exist. Again, yoga practice can play an important part in these organic organizations because an essential component of yoga practice is that it brings change to the individual or at least opens the individual to change. This could have wide-reaching effects for the organizational structure as a whole. For instance, in the Bay Area, there are many organizations in which the concept of yoga is meant to keep the organization "organic" (i.e., open to the possibilities and the potential for change).

This literature review serves to demonstrate how important human resources are to organizations from different theorists' perspectives. The purpose of the next section is to focus on the discussion of individual stress level, how it affects individuals, and how yoga may play a part as a communal activity, change the social environment, and signal a shift in organizational culture.

## Stress and How It Affects Individuals and the Organization

The first part of the century saw a shift in management strategies from a utilitarian and so-called “scientific” management style to a more humanistic approach. Focus on the individual has become part of the organizational strategy together with other factors of organizational effectiveness. Attention to the performance of humans as machines has shifted the focus to the quality of human resources (i.e., organizational capability is now attentive to individual members’ physical and mental health). The next section of the literature review will focus on the maintenance of psychological health for members of an organization by looking into stress factors and how they impact human resources.

Tables 1 and 2 indicate that stress affects people physically and psychologically, but because of the smaller percentages (see Table 2), the data suggests that some sort of intervention and more aggressive strategy needs to be introduced to help people manage stress more effectively. According to the American Institute of Stress, “Stress management has a limited role in reducing organization stress because no effort is made to remove” stress in organizations (2009, p.6). In his book, *The Real Age Makeover* (2004), Roizen, made a powerful case that stress is the primary cause among the 191 factors of aging (diet is Number 2, and loss of a friend, Number 3). The American Institute of Stress also listed numerous surveys about work-related stress, how it affects workers, and the estimated cost to U.S. industry (over \$300 billion annually) as a result of accidents, absenteeism, employee turnover, diminished productivity, and direct medical, legal, and insurance costs (American Institute of Stress, p. 4).

Table 1  
*A Summary of the 2007 American Psychological Association Survey on the Negative Impact of Stress*

Impacts	Percentage
Physical symptoms	77
Psychological symptoms	73
Fight with people/close friends	54
Trouble sleeping	48
Difficulties with work responsibility	31
Difficulties with family responsibility	31
Alienation from friends/family	25

*Note.* Adapted from *Stress a Major Health Problem in the U.S.*, by American Psychological Association, 2007, retrieved January 6, 2009 from <http://www.apa.org/releases/stressproblem.html>

Table 2  
*Summary of How People Manage Stress From an APA Survey*

Impacts	Percentage
Overeating/unhealthy eating	43
Skipping a meal	36
Drinking	39
Smoking	19
Listening to music	54
Reading	52
Exercising/walking	50
Praying	34
Spending time with family/friends	40

*Note.* Adapted from *Stress a Major Health Problem in the U.S.*, by American Psychological Association, 2007, retrieved January 6, 2009 from <http://www.apa.org/releases/stressproblem.html>

In a research study by C. L. Cooper and Bramwell (1992) “Predictive Validity of the Strain Components of the Occupational Stress Indicator” (OSI), the authors used a random sampling design to assess a correlation between occupational stress and employee’s health. More than 2,000 samples were selected randomly from a brewing company from different production sites in Scotland and northern England. Completed responses to the survey consisted of 236 managers and 377 shop-floor workers (C. L.

Cooper & Bramwell, p. 57). C. L. Cooper and Bramwell's research hypothesis was that there is a significant correlation between the OSI (independent variable) and the dependent strain variables: job satisfaction, health and well-being, and sickness/absence. The data on job satisfaction and health and well-being were collected using questionnaires rated on a six-point Likert scale. Sick-day records were obtained from the employer. The responses were measured, calculated, and analyzed using a 95% confidence level ( $OSI \geq .05$ ) each with the SPSS-X statistical package. The final results indicated that there is a significant correlation between the strain scales and sickness absence (mental health and sickness absence with  $OSI = 0.0644$ , physical health and sickness absence with  $OSI = 0.1484$ , and job satisfaction and sickness absence of  $OSI = 0.1236$ ; C. L. Cooper & Bramwell, p. 60).

This study validated the predictivity of the strain components (health, job satisfaction, and sickness) and the OSI. It suggested evidence that occupational stress affects sickness days, and that stress does affect both the individuals and the organization. C. L. Cooper and Bramwell also had some conflicting results from managers and workers that are difficult to interpret. This may be due to some of the limitations of this study: small sample size and the absence of other research instruments such as personal interviews or observation. Further interviews may be conducted to provide better understanding of the findings or produce less conflicting results. These limitations of the study may be a cause of some inadequacy, suggested by the answers from the respondents.

Friedman et al. (1958) conducted the clinical study of a self-control group consisting of 40 male accountants separated into two groups—tax accountants and

corporate accountants—to investigate the correlation between occupational stress and changes in serum cholesterol and blood clotting. This study compiled data on weight, exercise, diet, and workload of these subjects over a specially selected time period: a 4-month period in which the accountants had to work under pressure to meet the tax or financial reports deadline and the 2 months following the deadline. During this period, each accountant was regularly privately interviewed for behavioral and emotional state and clinically tested regularly for serum cholesterol and blood clotting. Both the corporate accountants and the tax accountants encountered extreme demands from their work at the beginning of the year, and the study found that each individual, with no exception, experienced the stress caused by the urgency of the work demand and reacted “emotionally” (Friedman et al., p. 856). During the busy season, the tests revealed statistically significant changes in serum cholesterol and the acceleration of clotting relative to the slow period. They recorded variations of weight, exercise, and dietary intake. However, they found no significance in relationship to the period of stress. This study concluded that for Western men, times of “severe occupational stress or other forms of unusual emotional tension are associated both with a sudden . . . rise of serum cholesterol and a marked acceleration of coagulation time” (Friedman et al., p. 860). This study introduced the concept of a possible “causal relationship of occupational and other socioeconomic stress” (Friedman et al., p. 860) to the problem of clinical coronary disease.

Research by Friedman et al. (1958) provided some scientific evidence of how stress can affect the health of an individual. Their article brought awareness of a correlation between stress and its physical consequences for an individual; later

researchers noted the early consciousness-raising role played by this seminal study, connecting work-related stress to possible physical consequences for members of an organization (Friedman et al.). Although this study was conducted only on Western men who work in the accounting profession, it is often assumed by peers to have more general application. Researchers refer to it to sustain a correlation between stress and physical consequences of individuals generally.

If the study had used more disparate subject groups, it would have provided more solid evidence for the argument. It is not clear why the experimental groups were divided into demographics of tax accountants and corporate accountants. These two groups have similar time constraints and work demands. If the purpose of the study was to compare results in the selected groups for difference or similarity, it would seem to make sense for the researchers to have selected women accountants, or even members of another profession with similar time pressures, as one group. That said, this study, in its limited way, set some important groundwork for the contention that emotional stress has physical-health effects, a concept that later research has developed and continues to demonstrate. Not only has the research shown that emotional stress has physical health effects but the reverse is also true: the physical health of the individuals is as much a result of the mental stressors as the cause (Friedman et al., 1958). The lesson is that at the workplace physical health is only part of the picture for overall happiness of the individual.

### The History and Health Benefits of Yoga as a Practice

The basic concept of yoga practice, as differentiated from other forms of exercise, can only be explained in light of its origin and history. What follows is a brief look at

where yoga originated, what it is, and how its modern incarnation can be seen to bring health benefits to its practitioners.

Yoga practice has been around for more than 5,000 years (American Yoga Association, 2009). It represents a versatile spiritual search through many different avenues and techniques, and although there are many different schools of the interpretation of yoga practice, in general yoga is based on “three main structures: exercise, breathing and meditation” (American Yoga Association, p. 1). This means yoga incorporates practicing body movements that are “designed to put pressure on the glandular systems of the body, thereby increasing its efficiency and total health” (American Yoga Association, p. 1) with breath awareness. Yoga is, among other things, a way to further understand one’s body’s relationship to inner feelings through a meditative awareness. Meditation through yoga practice activates and explores the complex ways in which mind and body interface. The practice of yoga is a way to teach individuals to be in touch with themselves and to provide the opportunity for individuals to be aware of their mental and physical being in the world.

The teaching of yoga is instruction in physical exercise in a noncompetitive environment that facilitates self-reflection in the hopes of better connecting the individual’s mind and body. Yoga, therefore, can be seen as a philosophy that is learned through the physical practice of the body and provides an alternative to learning self-discipline through body and mind movement simultaneously (Patañjali & Feuerstein, 1989). The beginning of yoga practice can at first seem to be a physical experience similar to other physical exercises; however, with continuous practice and learning one begins to reach a level that provides the gradual realization of the flow of energy.



The American Yoga Association (2009) claimed that the original concept of yoga dates back to 3000–5000 BCE and although the exact date at which yoga began is unclear, archeologists speculate that it began in India even before there was a written tradition, because yoga positions were found carved in the walls in the Indus valley. Scholars believe that yoga began and remained a spiritual ritual until Patañjali organized old texts and sutras (Feuerstein, 1998). Before Patañjali's time, yoga philosophy and exercise were passed on from teachers to students verbally; Patañjali was the first to make a written account of yoga practice and philosophy as it was derived from the 200 sutras translated from the Hindu Vedic texts.

Different traditions of yoga grew out of the needs of different cultural and social problems. Generally speaking, what is considered yoga today is a spiritual practice that has roots in four distinct periods:

1. The Vedic Period (3300–1700 BCE; Wikipedia.org, 2009, p. 1). Early archaeological evidence revealed that yoga began around 3000 BCE when stone seals depicting figures in yoga poses were carved. Feuerstein (1998) claimed that “a number of the over two thousand terra-cotta seals that have been found show horned deities seated in the manner of the later *Yogins*” (p. 100). Scholars believe that yoga existed before this as part of Stone Age shamanism, as an early attempt to improve the human condition at that time. As a tool to guide meditation, yoga is thought to be part of a practice to heal the spiritual mind through public ritual.
2. Preclassical yoga (800–100 BCE; Wikipedia.org, 2009, p. 2). Specific examples of the concept and terms of yoga appear in this period in early

references to meditation made by Brihadaranyaka Upanishad (13 texts that are the culmination of Vedic philosophy). Rig-Veda, one of the earliest of the Hindu scriptures, mentioned ascetic practices (tapas) that were practiced by Brahmans (900 BCE and 500 BCE) and were said to “enliven the body’s inner intelligence” as a spiritual exercise (Feuerstein, 1998, p. 231).

3. The classical period (ca. 200 BC; Wikipedia.org, 2009, p. 2). This is the era in which Patañjali codified the Yoga sutras. As the person considered to be the father of yoga, Patañjali started hatha yoga some time in the 15th century.
4. The postclassical or modern era (1800–present day; Wikipedia.org, 2009, p. 2). During this time, yoga was introduced to the West first as part of a health movement during the 1930s and later in the 1960s as part of a growing movement to facilitate meditation and relaxation.

Today, yoga has grown widely popular as a physical exercise, at times divorced from its original purpose of spiritual and philosophical aims. However, even in the most secular contexts, yoga still includes psychological elements that help calm the mind, unite the self, and bring peace through breathing techniques. Beginning with the first yoga studio in Hollywood during the 1940s, yoga in the United States became the most rapidly growing health movement of the 20th century, despite having existing for thousands of years (Wikipedia.org, 2009).

The concept of yoga as it is used in this research is based on the Yoga Sutra, written by Patañjali (Satchidananda, 1990), who organized the teaching from the Vedic and preclassical yoga periods, as translated and interpreted by Satchidananda. Although Yoga Sutra has many translations, Satchidananda’s commentary and the interpretation of

this text retain fundamental elements present throughout yoga's later incarnations, as the spiritual-contemplative component to the highly rigorous physical exercises. As perhaps the most significant figure in popularizing yoga, Satchidananda's exegesis helped countless leaders and practitioners understand the value of yoga throughout the East and West (Feuerstein, 1998).

Satchidananda is one of the greatest modern contributors to the popularity of yoga and through his translations of Patañjali's text and his efforts to teach yogis around the world, has done as much for keeping yoga alive as anyone in its long and important tradition (Satchidananda, 1990). A modern-day monk who is known as one of the world's ecumenical leaders, Satchidananda lectured around the world to different groups and organizations of different backgrounds and beliefs. In his book, *The Yoga Sutras of Patañjali, Commentary on the Raja Yoga Sutras*, Satchidananda introduced the concept of Integral Yoga, an approach that integrates ashtanga yoga (which is based on concentration and meditation) and hatha yoga (which is based on physical aspects on yoga). Satchidananda argued that the practice of yoga should be an integral practice of the mind and the body and that basic yoga practice is inclusive of two major elements: mental (emotional and intellectual) and physical (breathing, movement, and social; Satchidananda).

Satchidananda (1990) not only provided a more detailed and modern translation of the sutras of Patañjali, but used examples of modern life experiences to explain the yoga sutras for readers to understand the correlation between yoga mind and body exercises. This gave members of Western society fresh access to the older ideas by understanding familiar concepts through what Satchidananda called an "illuminating

vision” approach (Satchidananda). Through commentaries and translations of this age-old text, this modern-day, practical advice on how to master the mind and achieve a healthy physical and mental harmony in life used a slightly less self-punitive tone. For example, when interpreting one of the sutras, “there are five kinds of mental modifications which are either painful or painless” (Satchidananda, p. 9), the author replaced “pain” or “painless” with “selfish thoughts” and “selfless thoughts” (Satchidananda, p. 10); Satchidananda explained that these words were changed because in modern society in the “daily lives we always work with these two categories of thoughts. Now we know that selfish thoughts will bring misery (pain) and selfless ones leave us in peace (painless)” (Satchidananda, p. 11). *Selfishness* is discussed by many Western modern authors; it is a great concern for the success of modern leaders.

For example, in Johnson’s book (2001) *Meeting the Ethical Challenges of Leadership: Casting Light or Shadow*, the author asserted that one of the bad qualities of a “brutal” boss (bad leader) is selfishness, typified by bosses who blame subordinates and make them scapegoats (p. 12). This selfish behavior not only damages the culture of an organization, it also brings pain to its members. Johnson emphasized the importance of being a selfless leader as part of the qualities of being an ethical, successful leader. An ethical, successful leader leads healthy followers and healthy organizations. This is similar to Satchidananda’s (1990) suggestion to “forget your selfishness, make others happy, and you will be the happiest person” (p. 11) Satchidananda explained how one can arrive at the selfless state through the practice yoga, and that one learns to watch thoughts and minds carefully:

How are we to know whether our thoughts are selfless or not? We have to watch carefully the moment a thought-form arises in the mind. We become analysts.

This itself is Yoga practice—watching our own thoughts and analyzing them. (Satchidananda, p. 11)

This is just one example of how the practice of yoga has the potential to enable yoga practitioners to examine their thoughts and learn to be selfless, therefore to avoid becoming bad leaders in the current business environment.

The above example represents the first “book” of yoga practice, the Portion of Mental Contemplation, the injunction of yoga practitioners to meditate and work on themselves, mentally and spirituality. This contemplation begins the practices, the Ashtanga Yoga, and forms one of the eight limbs of Yoga: abstinence, observance, posture, breath control, sense withdrawal, concentration, meditation, and contemplation (absorption or a superconscious state). It is important to know that “each of the eight limbs are equal to the others and necessary” (Satchidananda, 1990, p. 125).

The second “book” of the Yoga-Sutra is the Portion of Practice, the physical part of yoga, the hatha yoga. With a foundation in spiritual philosophy, hatha-yoga practice includes the following (Satchidananda, 1990, p. 240):

1. Postures (asanas)—when people try to sit quietly and encounter pain and stiffness, it is helpful to start to practice some “preliminary” yoga poses to arrive at a meditative pose and become more at ease with one’s postures.
2. Breathing techniques (pranayama)—when one begins with deep exhalation, in and out slowly, when the breath is regulated, it will bring peace to the mind, and helps to practice different yoga poses and avoid injuries while doing these poses.

3. Seals (mudras), locks (bandhas) and cleansing practices (kriyas)—to rid oneself of the toxins already inside the body. Satchidananda suggested these toxins “could be gotten rid of by squeezing the body in all different directions” (1990, p. 153). For example, practicing the “forward bending” pose would cleanse the liver, spleen, and intestines. Satchidananda claimed it is effective because this pose can crush the stomach a bit, therefore the toxin can be squeezed out; and if toxins are still present, the peacock pose would serve; if this still wasn’t sufficient, the stomach lift. When the spine was stiff and didn’t want to move, try to employ postures “that bent it forward, backward, sideward and upside down” (Satchidananda, p. 153).

The third and fourth books of the Yoga Sutra are called the Portion on Accomplishments and the Portion on Absoluteness; Satchidananda (1990) translated these directly from the old sutra and did not comment on these. As it is described in its own words, these sutras discussed accomplishment of faithful practitioners’ Raja Yoga and discussed yoga from a more universal, philosophical viewpoint. These final two parts, although very enlightening, may not apply to the purpose of this literature review.

In summary, although it is unclear whether Patañjali was a single person or several people using the same title, it was not until Satchidananda’s commentary on Patañjali’s texts that yoga existed in its modern form. Patañjali and Feuerstein (1989) systematized the ideas and practices that already existed, and Satchidananda (1990) made these texts available to a wider audience through his commentary. For the purpose of this research, Satchidananda’s interpretation of Patañjali’s Sutras, which form the basis for all of the various types of yogic practice and meditation, provide the foundation for yoga

practice—a union (as the word yoga is often translated) between the mind and body, a physical practice that entails a contemplative and spiritual element that restricts “fluctuations of consciousness” and “stands for a particular tradition extraordinarily rich in theory and practice” (Feuerstein, 1998, p. 26).

Although ashtanga and hatha yoga have long integrated the body and mind in the East, these have often been viewed skeptically by critics in Western culture, who have often sought a scientific basis for the benefits espoused by ancient philosophy and spiritual practice. A well-known medical doctor and scientist, Coulter stated “despite the recent boom in yoga’s popularity, most scientists and physicians have been slow to embrace this discipline” (2001, p. 11) as “the West has slowly opened the past decades to Eastern, experientially based fields like acupuncture—as part of greater acceptance of alternative medicine in general—yoga has begun to stake its claim” (Coulter, p. 11).

Coulter observed that even though in the last half of the 20th century, many schools of hatha yoga have taken root in the West, others have developed “new age” tangents that traditionalists view with suspicion (2001, p. 17). Some of these schools have been based on authentic oral traditions passed down through many generations of teachers. Some are suggested in order to meet modern needs and expectations but are still consistent with the ancient art, science, and philosophy of yoga. It seems Western society needs to understand the physical and scientific form of yoga through its physical and scientific interpretation as it relates to our modern lives before the practice can gain a wider legitimacy. Coulter did just that. In his book, *Anatomy of Hatha Yoga*, Coulter discussed hatha yoga and its poses by using more modern terminology and correlated it directly with Western medical science. For instance, Coulter’s colleague, Ornish, a

California-based cardiologist who studied with Satchidananda, had a significant breakthrough: he proved that a program that combines hatha yoga with dietary changes, exercise, and group therapy can actually reverse blockages in the heart's main arteries, which doctors used to think wasn't possible (Coulter, p. 11).

Traditionally, the word *yoga* refers to raja yoga (ashtanga yoga) as a “mental science” (Satchidananda, 1990, p. xi) and the physical poses of yoga, or hatha yoga, were primarily designed to facilitate the real practice of yoga—namely, the understanding and complete mastery over the mind. Satchidananda explained that although hatha yoga is “several thousands of years old, it never becomes outdated. The truths of it are always current. They are like gold. Although other things lose their value according to time, gold is always the same” (Satchidananda, p. 154). Because of this quality, yoga is universally applicable; Coulter says of Satchidananda's messages that yoga is “neither exercise nor religion, but a science” (2001, p. 13).

Coulter (2001), who has a background in anatomy from the University of Tennessee Center for the Health Sciences and who taught neuroscience at the University of Minnesota Medical School, set himself the ambitious goal of combining the modern scientific understanding of anatomy and physiology with the ancient practice of hatha yoga (p. 12). Coulter discussed the physical part of yoga practice in his book, explaining hatha yoga in scientific terms so that yoga practices can now be directly explained based on medical theories, by relating the “structural and functional aspects of Hatha Yoga” (Coulter, p. 15) to the “body's architecture” (p. 16). A yoga practitioner himself, Coulter managed to objectively describe basic yoga poses to help individuals improve not only their physical flexibility and balance, but also their bodily balance. Coulter proposed that



it was through this practice that one will gain inner peace and contentment. Although Coulter acknowledged yoga as having the positive effect to heal and help individuals cope with back problems, arthritis, and other chronic problems (Coulter, p. 11), the author did not claim that yoga heals at a speedy pace. It will heal, Coulter explained, but only over years. It is a “slow medicine” (Coulter, p. 11).

Coulter (2001), being familiar with both Western medicine and Eastern yoga philosophy and practice, correlated each pose to the precise ways in which the pose enables the human body structure to achieve the effects that are espoused in the philosophical traditions. Coulter explained the purpose of the research:

How to do yoga postures (yoga asanas) using anatomically precise terminology, and, for correlations with medical science, and objective analysis of how those postures are realized in some of the great systems of the body. ... In that regard, special emphasis is placed here on the musculoskeletal, nervous, respiratory, and cardiovascular systems—the musculoskeletal system because that is where all our actions are expressed, the nervous system because that is the residence of all the managerial functions of the musculoskeletal systems, the respiratory system because breathing is of such paramount importance in yoga, and the cardiovascular system because inverted postures cannot be fully comprehended without understanding the dynamics of the circulation. (p. 15)

Coulter went on to demonstrate how hatha yoga draws on some basic principles of physiology and anatomy in order to reduce stress, improve health, strengthen the body, and alleviate pain.

Breathing techniques are at the heart of hatha yoga and Coulter (2001) discussed how this basic tenet of yoga practice introduces important elements of relaxation and health to the individual. Coulter observed how proper breathing technique controls how much and in what way oxygen is brought into the body.

To understand the benefits of controlled breathing we must proceed step by step, beginning with a look at the overall design of the respiratory system, and then at

the way skeletal muscles draw air into the lungs. We'll explore how the two major divisions of the nervous system—*somatic* and *autonomic*—interact to influence breathing. Then we'll turn to the physiology of respiration and examine how lung volume and blood gases are altered in various breathing exercises. That will point us toward the mechanisms by which respiration is regulated automatically and at how we can learn to override those mechanisms when we want to. Finally we'll examine four different kinds of breathing—thoracic, paradoxical, abdominal, and diaphragmatic—and the relationships of each to yoga breathing practices. (p. 68)

Using specialized methods of breathing, for example abdominal breathing (or as Coulter terms it *abdomino-diaphragmatic*), the downward movement of the dome of the diaphragm not only draws air into the lungs, it also “pushes the lower abdominal wall anteriorly” (Coulter, 2001, p. 81). Coulter went on to examine four different kinds of breathing—thoracic, paradoxical, abdominal, and diaphragmatic—and the relationships of each to yoga breathing practices. Breathing is an essential element of what makes yoga such an effective form of stress reduction. The whole point of breathing, Coulter explained, is to get oxygen from “the atmosphere to the cells of the body and carbon dioxide from the body into the atmosphere” (p. 95). By controlling our breathing in various ways (abdominal, thoracic, paradoxical, and diaphragmatic), we are in better control of when the sympathetic nervous system becomes aroused due to the various breathing techniques. Coulter illustrated how “digestion, circulation, endocrine function, sexual function and immune function are all either put on hold or stressed by continual sympathetic discharge” (Coulter, p. 108), and breathing is the key to the degree to which these processes are set in motion.

As important as the individual's control of breathing is to the yoga practice, the control over the body is equally valuable. Back bending, forward bending, and twisting postures are beneficial to most people, no matter what their age or level of expertise. It is important to be aware of one's mind, body, and, most importantly, one's breath when

practicing these postures. Yoga, Coulter argued, is not a competitive sport. One must be aware of one's own capacity and flexibility to do yoga postures. From the "awareness comes control, and from control comes grace and beauty." Even postures approximated by beginning students can carry the "germ of poise and elegance" (Coulter, 2001, p. 17). It is important for practitioners to "lock" the attention in the body, to concentrate on breathing, "on tissues that are being stretched, on joints that are being stressed, on the speed of movements, or on the relationships between breathing and stretching" (Coulter, p. 17). From these techniques and mental discipline, the postures thus become beneficial. Satchidananda advised when practicing poses, when one moves "into and out of postures, honor the suggestions of pain, cultivate regularity, enthusiasm, and caution" (1990, p. 19). This means each person is responsible for their own movement, and patience is part of the practice that needs to be cultivated. Coulter demonstrated the relationship between the nervous system and posture as follows:

To illustrate how the nervous system manages posture, let's say you are standing and decide to sit. First your nervous system commands the flexor muscles (muscles that fold the limbs and bend the spine forward) to pull the upper part of the trunk forward and to initiate bending at the hips, knees, and ankles. A bare moment after you initiate the movement, gravity takes center stage and starts to pull you toward the sitting position. And at the same time—accompanying the action of gravity—the nervous system commands the extensor muscles (those that resist folding the limbs) to counteract gravity and keep you from falling in a heap. Finally, as soon as you are settled in a secure seated position, the nervous system permits the extensor muscles and the body as whole to relax (p. 22)

Coulter observed that "research has shown beyond question that the length of muscle fibers can be increased as a result of prolonged stretching, or decreased as a result of chronic foreshortening" (p. 61).

Other benefits of hatha yoga include inverted poses. The head stand and shoulder stand are inverted postures that cause pressure not only to the head and shoulders but to

the arteries and veins as well as the soft tissue on head and neck. Although these postures are difficult and should be approached with caution, the inverted stands impact the circulation as well as every system “in the body, in one way or another; musculoskeletal, nervous, endocrine, circulatory, respiratory, digestive, urinary, immune, and reproductive” (Coulter, 2001, p. 438). When blood pressure moves to new parts of the body (blood will drain to the heart from the lower extremities), tissue fluids will make for a healthier exchange of nutrients and waste between cells and capillaries. During a headstand, blood pools in the capillary beds and veins in the region of the body superior to the heart (in the head, neck, and shoulders) where it is kept until arterial pressure forces it back around to the heart. This increased pressure often results in a sense of well-being and because inversion causes the flow of blood in the lungs to be reversed, the lower parts of the lungs are filled with blood, increasing circulation.

Another crucial element in the ways in which hatha yoga benefits the mind and body is relaxation. Relaxation in yoga means lying down, most commonly in the corpse posture, and it means “settling yourself in a circle of quiet, emptying the mind of all outside concerns, and relaxing from head to toe” (Coulter, 2001, p. 541). Releasing tension in skeletal muscles, meditation, in Coulter’s view, goes beyond clearing one’s mind but means “schooling your psyche and quickening your existence in consciousness” (Coulter, p. 541).

Coulter’s (2001) study of the *Anatomy of Hatha Yoga* was the one of the modern authoritative sources that correlates physiology and human anatomy with the study of hatha yoga. Coulter introduced yoga by using simple language, drawings, and photographs illustrating yoga poses and human anatomy to explain the complicated

process of yoga practice. The author explicitly explained why and how the body will respond to stretching and exercise if it is done correctly so that a layperson can understand this discussion of complex processes. Coulter described different yoga postures and explained in medical terms how each posture will improve the movement of body muscle and joints using Western medical terms and relating them to yoga practice, and relating the Western definition of human anatomy to Eastern yoga practice. Coulter's work presented an objective view of physical yoga practice, not only to explain each yoga pose and movement explicitly, but also to prevent people from getting injured by understanding anatomy as it is understood in hatha yoga.

#### Stress Reducing Effects of Yoga in Management Strategies

Janowiak (1993) suggested a causal relationship between stress and health consequences, and proposed that yoga may provide one effective way of promoting self-growth and reducing stress. That study was further substantiated by Daubenmier (2005), who conducted a quantitative study of "the relationship of yoga, body awareness, and body responsiveness to self-objectification and disordered eating." This study used two study groups to examine if there is a correlation between yoga practice and the awareness and responsiveness to bodily sensations, lower self-objectification, greater body satisfaction and fewer disordered-eating attitudes. Daubenmier suggested that physical activity alone does not necessarily "reduce self-objectification and its consequences" (p. 4); and that the adaptation of yoga practice, which combines mind and body activities, may cultivate "a direct experience of the body, which may be particularly effective in counteracting self-objectification and its consequences." One of the hypotheses of the study was that "women who practice yoga were expected to report greater body

awareness and responsiveness compared to women who practice other physical exercises” (Daubenmier, p. 5). Daubenmier selected participants by approaching women at shopping centers, exercise studios, and grocery stores with a survey that contained questions concerning (a) extent of exercise participation; (b) self-objectification; (c) body satisfaction; (d) eating-disorder symptomatology; (e) body awareness; and (f) body responsiveness.

The first study group consisted of yoga participants, aerobic participants, and baseline comparison participants (women who had not taken a yoga or aerobic class in the past 2 years). After data collection, Daubenmier (2005) used a between-group analysis with a one-way MANCOVA analysis. The number of hours spent doing each type of exercise was the independent variable, and self-objectification, body satisfaction, disordered eating attitudes, awareness, and responsiveness were the dependent variables. The findings were as predicted; more hours spent doing yoga per week was slightly associated with less self-objectification ( $r = -.30, p = .05$ ) and more hours doing aerobics per week was slightly associated with greater disordered-eating attitudes (with  $r = .35$ , 95% confidence level). From the first study, Daubenmier concluded that yoga is associated with more positive body experiences in women by comparing contemporary yoga practitioners with aerobic exercisers and those who do not practice yoga or exercise. The second analysis suggested that “yoga is associated with lower levels of self-objectification and its proposed consequences.” Daubenmier also performed a similar test in a sample of 133 female undergraduate students recruited from psychology classes. Similar findings were revealed in the second study group.

Daubenmier's (2005) study provided scientific data for the unique contributions yoga can make for individuals (distinct from other forms of physical exercise) on the individual's mind and body. It was one of the first studies to examine the effect of yoga practice and provided a useful source for future studies into the value of a yoga practice as a tool to improve not only individuals' physical health but, most importantly, the mental state of an individual. However, there are difficulties with this study. The sample size was not large enough to reach a more convincing conclusion that could represent the whole population and the research might be seen as limited to a particular psychopathology (rather than to an individual's health in general).

Although extensive longitudinal studies on the impact of yoga have not been conducted, yoga has played a role in ideas about management strategy and informal reports on yoga's impact on employees' well-being. For instance, one of the UK's leading satellite broadcasters, Sky, implemented an employee health and well-being program (Moore, 2006) that included regular yoga practice. After a relatively short period of time, human resources reported a marked improvement in motivation and morale from the participants in the program (Moore).

Similarly, Treven and Potocan (2005) situated the benefits of yoga in consideration for onsite training programs for stress management in small businesses. In discussing different strategies for managing stress at work, Treven and Potocan included yoga as a way to help employees process information about a stressful situation. As a coping skill, it can change unproductive ways of reacting into opportunities for growth (Matteson & Ivancevich, 1993). Yoga, according to Treven and Potocan, is an "effective method to control stress on a physical and mental level" (p. 645).

Work, however, does not always have to be seen as the source of stress but can be seen as a potential source of contentment and fulfillment. McCormick (1994), for instance, in “Spirituality and Management,” linked the notion that work can be a meditative experience carried by Hindus who practice karma yoga with the idea that integrating spirituality into management can bring the employee’s deepest values to bear on work and promised equally deep fulfillment (McCormick). McCormick argued that Hinduism advocates for selfless service through work that leads to union with God and that yoga is one way in which the individual can develop this sense of selflessness and servitude. Some claim that Yoga is a form of “spiritual art of exercise” (Team Ayurveda ThinkQuest, 2009), with benefits of yoga such that

The highest aim of yoga is realization of the true self. This leads to cosmic love, a feeling of oneness with all & the experience of pure being, unflawed knowledge & infinite bliss. Yoga is no magic pill but leads to the desired goal through patient, systematic practice. Intense practice of yoga has been found to activate intuitions & creativity, unfold artistic capabilities & enhance mental power. Different spheres of consciousness become accessible to a yoga practitioner. Many perceive the life energy within themselves. (p. 1)

This idea that work can have a spiritual connection is also affirmed by Wilson (1997), who observed that although many practice yoga as a purely physical exercise, there is often an unexpected consequence: the awakening of a spiritual awareness. Wilson suggested that the all-too-common feeling that something is missing in so many human endeavors (including, most importantly, work) is one of the reasons why so many have sought out yoga as a way of stress reduction. In other words, because yogic philosophy is fundamentally one of spiritual development and enlightenment, its practitioners are, whether they plan to be or not, offered another set of tools to provide for a lack of meaning at work (itself an often-uncounted stressor among employees).



## Summary

This literature review has surveyed the theories and research relevant to central concepts in organizational health, outlined pertinent research on stress-reducing exercises, and introduced terminology, historical background, and scholarship on yoga as a potential aid to managerial strategies. Whereas the first two sections were concerned with Western theorists' interpretation in the areas of individual's physical and mental health (from ideas of self-actualization and stress management), the literature in the last two sections of the review relied heavily on Eastern concepts, situating the rich tradition of yoga (and its modern incarnations) in the context of cultural, scientific, and philosophical traditions. Although many organizations in the East have adopted the practice of yoga as part of the business environment, less research has been done in situating why this practice is successful, what is successful about it, and how one might learn more about yoga as it contributes to the goals of the organization.

In Western society, since the beginning of the industrial revolution, the primary goals of organizations have been based mainly on profitability, efficiency, and productivity. Classical theorists gave little consideration to human factors. Taylor (1916), for instance, assumed that to increase the efficiency of an organization, one only needed to increase manpower. Taylor's principle of scientific management was to create the most efficient division of labor as determined by means of scientific-management techniques (techniques that omitted any sophisticated understanding of the relationships between worker and employer). For Taylor, efficiency was based on productivity, a concept that omitted much consideration of the factors that contribute to the success of individual labor (i.e., the mental and physical health of the employee). It was not until the 1940s that

theorists began to see the importance of the human factor, including the individual's state of mind and ongoing mental health. It was not until the 1970s that theories of management styles that actively promoted employees' physical and mental health began to capture the attention of those in the field who were interested in incorporating new strategies to meet organizational goals.

By examining how the practice of yoga benefits the individual, by illuminating which theories suggest that the health of individuals in an organization matter, and by looking at what makes a healthy organization, the present study sought to discover how yoga as a collective experience might reduce stress and benefit business. The need for more studies to be performed in the area is strongly suggested by the role that stress plays on workplace productivity. Although there has been significant research on the topic of stress, less work has been done in considering how yoga, when practiced as a group at the workplace, can help improve individual health and organization effectiveness. This research contributes to theories of organizational health by investigating whether yoga makes a difference in mitigating and managing stress—an essential task for today's business environment. The research touched on here confirms the growing need for more research to establish a firmer correlation between individual health, yoga practice, and the health of an organization.

## CHAPTER III

### METHODOLOGY

#### Restatement of Purpose

This study examined how the introduction of a yoga practice as a group exercise in the workplace impacts the overall health of the organization by lowering stress levels of individual members. The research provided one possible approach for business practitioners and managers to affect and cultivate organizational health through yoga, which has both physical and psychological or emotional components. By more closely examining the experience of those who practice yoga in the workplace, this study explored how yoga, an exercise that is intended to promote the awareness of and responsiveness to bodily sensation (Daubenmier, 2005), influences individuals in the organization.

#### Research Design and Methodology

This research consisted of a descriptive case study, employing a qualitative research method in which the researcher attempted to derive a general abstract theory of a process grounded in the views of participants in the study (Creswell, 2003). Using interview questions as a primary research instrument, the research process collected data to refine the interrelationship of categories of information (Strauss & Corbin, 1998). Qualitative research posits the idea that a concept like “organizational health” cannot be reduced to numeric data. Instead, through case studies, the researcher comprehensively explores the individual’s experience as it emerges through the interview process. The researcher details information through data-collection procedures over a sustained period

of time (Stake, 1995) so that multiple meanings of individual experience can be collected to understand the whole. Although this research claims that yoga improves overall health for individuals and organizations, *how* yoga impacts the individual and *how* yoga impacts the overall community is what the research helps to better understand. In this way, qualitative research seeks to discover the meaning or meanings behind a particular phenomena (in contrast to quantitative research, which already assumes the meaning), so that through open-ended interviews, this research explores in what sense different individuals and different workplace communities benefit from yoga (D. R. Cooper & Schindler, 2001).

Because yoga is both a mental and spiritual experience (Satchidananda, 1990), a qualitative approach may be more beneficial for the researcher because it offers deeper and more nuanced data than quantified information found in a quantitative perspective (Creswell, 2003). This interview process will therefore “allow for dialogue [and] mutual exchange of information” (Maguire, 1987, p. 102) with the respondents. The researcher proposed this approach because it will help the researcher make “knowledge claims based primarily on a constructivist perspective (i.e., the multiple meanings of individual experience, meaning socially and historically constructed with the intention of developing a theory or pattern) or advocacy/participatory perspective” (Creswell, 2003, p. 18).

A participatory personal interview was conducted with selected individuals who were familiarized with the study through an introductory letter (see Appendix A). Individuals were able to express their own physical and spiritual experiences through this interview process, in an open-ended conversation. Participation in the interview process

was completely voluntary. The research queried the relationship between the practice of yoga, the participant's stress level, and their performance at work. This researcher interviewed 12 yoga participants who are currently working in the private sector, schools, or nonprofit organizations (small, medium, or large). The research was conducted in the San Francisco Bay Area with individuals selected from members of organizations that practice yoga for a period of time. (For example, Google in San Francisco provides yoga classes to its employees.) The interview questions addressed four major topics:

1. How does yoga affect an individual's stress level?
2. How does an individual's level of stress affect the organization?
3. How do the relationships between members of the organization benefit from group yoga exercise?
4. How does the organization's relationship with other organizations benefit from group yoga exercise?

These questions were relayed to the participants in a clear matter. Each participant was selected with the understanding that they are knowledgeable on these topics, and each participant was available to be interviewed in a 3-month time frame. All of these factors promoted the collection of data in a timely manner and therefore were intended to ensure that environmental factors were minimal. The researcher then analyzed the transcribed data by coding the content of the interviews in order to organize categories or key concepts as they emerged in the interview process (Creswell, 2003).

## Population and Sample

This research was conducted in the San Francisco Bay Area. For the sample-selection process, the researcher drew on the population of those individuals who participate in yoga at their workplace. For the interview process, the researcher selected 12 participants to conduct personal interviews from the first 20 respondents. The duration of these interviews was about 1 hour. The selection of participants was based on the following criteria:

1. The respondents' knowledge of yoga practice. All of the selected participants demonstrated some experience with a yoga practice for at least 2 years at the same workplace. The reason to select individuals with more than 2 years of yoga practice is that it would be difficult to obtain a reasonable understanding of yoga practice in a short period of time. Two years is an arbitrary number but suffices as what this researcher considers the amount of time it would take to begin to gain a rudimentary understanding of yoga.
2. The continuity of the respondents' practice. The researcher required not only a minimum of 2 years of practice but someone who has been practicing continuously (i.e., without interruption and at the same workplace) for at least 2 years. In other words, the participant must currently be practicing yoga and have been practicing continuously for at least 2 years. This meets two of the "three qualifications" that Satchidananda outlined for what constitutes a legitimate yoga practice (the first being that yoga "should be done for a long time, the second that it "should be without break" and third, it should be

practiced “with full attention, with the entire application of your mind, and with full faith in your achievement”; Satchidananda, 1990, p. 20).

The fact that the selection of participants depended on the individual practicing at the same workplace is important because this allows for a sufficient amount of time to see if yoga had any impact on the dynamics or environment of the workplace.

Yoga requires continuous practice, as Satchidananda suggested: “Here Patañjali means continuous practice, not just for one or two days. You have to always be at it, not just for a few minutes a day” (Satchidananda, 1990, p. 19).

3. Age requirement. The researcher selected participants older than 18 of age. The reasoning behind this choice is two-fold. First, yoga benefits individuals of any age so there is no upper limit (Coulter, 2001). However, those under the age of 18 are excluded because of the lack of experience in the working environment. An important reason for allowing no upper limit on the age requirement is that the research is therefore afforded an opportunity to see if there are any differences in the perception of yoga practice at different age levels or, conversely, if there are no differences, such a study might lend more weight to the idea that yoga is effective despite differences in the ages of its participants.
4. Participants must have been currently employed. There was a deliberate mixture of levels of employment: 3 participants who are employed at the entry level in their organization; 4 from midlevel; 3 from higher management levels; and 2 who are in higher management but who also are owners of the

businesses for which they work. By selecting different levels of employment, the research accounted for a wider range of perspectives about what is potentially beneficial about yoga practice in an organization. This may provide valuable information about different ideas as to what is or is not helpful about yoga in the workplace.

### Human Subjects Approval

An application outlining the methodology was submitted to the Institutional Review Board for the Protection of Human Subjects at the University of San Francisco. An approved copy of the Institutional Review Board for the Protection of Human Subjects is retained in the School of Education Dean's office. A copy appears in Appendix B.

### Instrumentation

The qualitative research consisted of a combination of an open-ended interview and a set of demographic questions (see Appendix C). The interview package included an introductory statement of purpose and a statement of confidentiality. The researcher used codes for each of these questions. The codes are key words and phrases that could represent most of the respondent's answers for each question. The researcher then matched each interview response against the codes and summarized the data by questions. This allowed for a reasonable conclusion for each question and a combined evaluation of the questions. The qualitative results were then used to reach conclusions relative to the research questions and literature review.



Interviews were two-way conversations used to obtain information from respondents. These interviews were conducted in person, at times that accommodated the respondent's work schedule. The researcher took interviewees out of the working environment to get their full attention. The researcher informed the participants that the place of the interviews would be the researcher's office space. The researcher carefully selected a time when the interviewee would not be distracted or interrupted. The researcher attempted to obtain in-person interviews rather than telephone interviews.

The collected data was then used to conduct the qualitative analysis. Each respondent was given a short statement that outlined the purpose of the study prior to the start of the interview. Each question was read to the respondents and questions and answers were exchanged between the interviewer and interviewees. The interviewer documented the process by tape recording or by taking notes during the interview and summarizing the interview afterward. The researcher then carefully reviewed each answer to the questions and assigned codes to the answers.

### Researcher's Profile

The researcher developed an interest in how mindfulness exercise can impact the workplace atmosphere, having brought yoga to her accounting practice in 2001. As an Asian-American, the researcher has a long-standing interest in what Eastern and Western traditions can offer each other, and as the founder of Hall, Yee, and Associates, the researcher has had a rare opportunity to see this take place as she managed, directed, and organized a small business for over 20 years. Her interest in cultivating a productive, healthy, and active environment stemmed from her early observations about how her father ran his businesses. In bringing yoga to the workplace, the researcher became

interested in the effects both on individuals and on the practice itself. This led the researcher to a deeper involvement in the ideas, history, and health benefits of yoga with a particular focus on how yoga might affect stress levels and organizational health.

The researcher received her Bachelor of Science from the University of San Francisco and received a Master's of Business Administration, also from the University of San Francisco. She received her license as a Certified Management Account in Ontario, Canada.

### Data Collection

Data were gathered through interviews. Interviews were open-ended, two-way conversations held to obtain information from respondents. The following is a step-by-step description of the procedure of data collection that was followed by the researcher to conduct the study:

1. In order to recruit eligible participants (who are over 18, currently employed, with a minimum of 2 years continuous yoga practice at the same workplace), the researcher solicited names from members in the community and advertised at local Bay-area yoga studios. A contact telephone number and e-mail address were given to potential participants.
2. When the researcher was contacted by respondents by phone or e-mail, the researcher asked the respondents questions from a checklist, compiled to determine the eligibility of potential participants. The checklist is as follows:
  - a. Age
  - b. Current Employment Status and Job Title

- c. How many years of yoga practice?
- d. Have you taken yoga at the same workplace for 2 years or more?
- e. Availability

After identifying the first 20 respondents who appeared to fit the criteria, the researcher stopped responding to inquiries.

3. A list of 20 potential candidates was compiled from which 12 were selected. The researcher chose participants from varying employment levels in order to get different points of view about the effects of yoga practice from different positions in an organization; varying age groups in order to see if age affects physical parts of the yoga-practice experience; and varying levels of competency in order to have a broader interpretation of the learning of yoga practice.
4. The researcher then contacted selected individuals to review the project and make appointments. During this time, the researcher explained to participants the purpose of the study. The researcher also explained that each respondent's identity would be kept confidential and that the researcher would reference each respondent by an assigned letter rather than by name. If the respondent was willing to participate after hearing this information and if the respondent fulfilled the criteria of the researcher, information such as names, job title, and organization was solicited. The researcher explained to respondents that they would be contacted in a mutually agreeable timeframe if they were or were not accepted into the study.

5. The researcher sent a consent form (see Appendix D) to each participant before scheduled appointments. The place of the interview was the researcher's office space where regular yoga classes are held.
6. The researcher spent time with each participant discussing the interview questions. First, a short demographic questionnaire was given to each individual to complete (see Appendix C); then the interview was tape recorded, and a release form for tapes and transcript was given to each participant (see Appendix E). If a participant did not feel comfortable being tape recorded, notes would have been taken during the interview. The dialogue started by explaining to each participant the background of the study. The interview then began with interview questions and each individual was given opportunities to express their personal feelings and share their personal experiences.
7. The collected data was then used to conduct the qualitative analysis.

### Data Analysis

Interviews were open-ended, structured around four major topics. Analyzing data from interviews consisted of identifying and organizing particular themes that emerged from the interview. These themes were identified as the researcher created categories, grouping together similar concepts. In this way, the research was grounded in the development of particular concepts from congruent and conflicting views on a particular topic, helping construct a new, richer understanding of the research questions (Creswell, 2003). The participant had an hour (if needed) to discuss the following areas of interest.

*Research Question 1: How Does Yoga Affect an Individual's Stress Level?*

The following interview questions provided data to answer Research Question 1.

1. How do you describe your stress level in relationship to
  - a. work before you began to practice yoga?
  - b. social life before you began to practice yoga?
  - c. physical health before you began to practice yoga?
  - d. mental health before you began to practice yoga?
  
2. How do you describe your stress level in relationship to
  - a. work since you have begun to practice yoga?
  - b. social life since you have begun to practice yoga?
  - c. physical health since you have begun to practice yoga?
  - d. mental health since you have begun to practice yoga?
  
3. In terms of psychological health, how has yoga impacted
  - a. your body image?
  - b. your alertness?
  - c. your concentration?
  - d. your impulse control?
  - e. What is the overall impact?
  
4. In terms of physical health, how has yoga impacted
  - a. your blood pressure?

- b. your digestion?
- c. your stamina?
- d. your posture?
- e. What is the overall impact?

*Research Question 2: How Does an Individual's Level of Stress Affect the Organization?*

The following interview questions provided data to answer Research Question 2.

1. How much stress is there in your organization? Give examples.
2. How often do you come in direct contact with stress at work? Give examples.
3. What kinds of stressors are there in your current work environment and how do they affect you (attitude, behavior morale, performance)? Give examples.

*Research Question 3: How Do the Relationships Between Members Of Your Organization Benefit From Group Yoga Exercise?*

The following interview questions provided data to answer Research Question 3.

1. How has yoga affected your relationship with your coworkers? Give examples.
2. How has yoga affected your relationship with your boss? Give examples.
3. How has yoga affected your relationship with subordinates? Give examples.

*Research Question 4: How Does the Organization's Relationship With Other Organizations Benefit From Group Yoga Exercise?*

The following interview questions provided data to answer Research Question 4.

1. How has yoga impacted your relationship with people to whom you provide service (e.g., customers, clients, vendors, and patrons)? Give examples.
2. How has yoga impacted your relationship with people who hold similar positions outside your organization (colleagues, competitors)? Give examples.

In order to obtain more accurate data, this study was introduced to respondents carefully. Preliminary information clearly stated that this study is for research purposes only and does not make a judgment about an individual's religious, aesthetic, or political beliefs. It is only an attempt to investigate the practice of yoga as a tool for improving our personal, social, and work lives. Because yoga, like other exercises, aims to improve one's physical and mental state, its effect on individuals in organizations might benefit the performance of those organizations overall. It is worthwhile to explore the possible benefits of stress-reduction exercises, such as the practice of yoga, for businesses, government organizations, and nonprofit organizations. Therefore it must be made clear that the motivation for this study was to explore in great depth the potential effects of such a practice.

On completion of the interviews, participants were assigned a letter that would be used in place of real names to maintain confidentiality. The respondents' answers were coded according to the categories that seemed to fall into most-used words or phrases (such as *stress*, *self-awareness*, *flexibility*, and *management of stress*). Each category was edited and reviewed to ensure there were adequate categories to incorporate the answers from each respondent. The analysis of findings concluded with a study of answers in these categories.

## CHAPTER IV

### FINDINGS

#### Introduction

This chapter explains the material findings of the participatory research and the interpretative understanding of these interviews. The findings are discussed in four sections, each devoted to one of the four research questions. This study is grounded in data conducted from interviews of 12 yoga practitioners who have been participating in regular yoga classes at their workplace for at least 2 years. This process—soliciting interviews, conducting the interviews, and transcribing the interviews—took 3 months.

The participants interviewed were recruited from the first 20 respondents to a questionnaire distributed in various Bay Area yoga communities. The participants were chosen from various levels of employment (entry level, middle management, supervisor, and supervisor/owner) as well as from various sizes of organizations or corporations (small = less than 100 employees, medium = less than 500 employees, and large = more than 500 employees). All of these participants have practiced yoga for at least 2 years in yoga classes offered by their primary place of employment. Each participant was given a pseudonym to protect their identity and privacy.

Interviews were conducted at the researcher's office. The interview process was guided by Creswell's injunction—to "listen closely to participants' ideas" (Creswell, 2008, p. 433). Each interview was taped and transcribed within a 2 months period, and data were gathered to respond to the four research questions. Each question was intended "to generate categories by examining the data" (Creswell, 2008, p. 438), and further



questions were intended to refine “the categories into fewer and fewer categories, comparing data with emerging categories” (Creswell, 2008, p. 438).

The discussion of the findings is preceded by a brief discussion of data analysis, site description, and a brief description of the participants’ profiles. The sections of the findings are divided into four research questions in which direct quotations from participants were used to generate categories so that themes and subthemes might be seen to emerge.

### Data Analysis

This qualitative data was collected from a small number of individuals ( $N = 12$ ) but it was not a random sample. It was a group “intentionally sampled because they could provide information” (Creswell, 2008, p. 453) for the generation of data needed for this particular qualitative research. Each interview was tape recorded and transcribed to make sense of the text from each participant’s interview.

The interviews were open-ended, structured around four major topics: How does yoga affect individual stress level? How does the individual stress level affect the organization? How do the relationships between members of the organization benefit from yoga? and How does the organization’s relationship with other organizations benefit from yoga? Analyzing data from interviews consisted of identifying and organizing particular themes that emerged from the interviews. The researcher created these categories by grouping together similar concepts as certain themes began to emerge among the various participants. In this way, the research was grounded in concepts developed from congruent and conflicting views on a particular topic and from participants who held different positions at different-sized organizations. This diversity

helped construct a new, richer understanding of the research questions (Creswell, 2008). The participants had an hour (if needed) to discuss the stated areas of interest.

### Site Description

The data-collection interview process took place at the researcher's workplace, located in San Francisco, California. This office is situated on the 2nd floor of a small building and the room used for this research interview is more commonly used for small-group meetings and small-group yoga practices. Because it is located at the very back of the office, from the north side of the room the office provides a view of plum and cherry trees in the backyard. The room was fairly sound-proof, which allowed the interview process to proceed with privacy and minimal interruption.

### Participant Profile

This section includes Table 3 listing the 12 participants and their demographic data. This table illustrates the diversity of levels of employment, the range of ages, and the differences between the individuals' years of experience, and is followed by a brief description of each participant (designated by a letter). Because participants were told that their names and place of businesses were not to be divulged in this study, such anonymity was intended to ensure the privacy of the interviewees and their workplace so they would be able to talk more openly. Some participants specifically requested that their names and workplaces not to be revealed so they might talk freely.

Twelve participants worked for seven different organizations. Three of the participants work at entry-level positions, 4 are middle managers, 3 are supervisors and 2 are supervisors who also are owners of their businesses. The initial selection process was

intended to select 4 from each level of the organization (entry level, middle management, and supervisors). However, of the 20 applicants, only 3 claimed to be at the entry level. Thus, the researcher decided to choose 2 supervisors who are also owners of their business in hopes of adding the important perspective of the company owner's viewpoint to the study.

Table 3  
*Participants Profile*

Name	Age	Position at work	Years in yoga	Average per month
1. Ms. C	18–25	Entry level	2–3	1–4
2. Mr. D	49–56	Middle management	6+	5–8
3. Ms. E	26–33	Entry level	6+	1–4
4. Ms. J	33–40	Supervisor	6+	5–8
5. Ms. Jo	33–40	Supervisor	6+	13–16
6. Mr. J	41–48	Supervisor	6+	9–12
7. Ms. K	33–40	Entry level	2–3	9–12
8. Ms. L	41–48	Middle management	6+	5–8
9. Ms. Lo	49–56	Middle management	4–5	13–16
10. Ms. P	33–40	Supervisor/owner	4–5	9–12
11. Ms. S	33–40	Middle management	2–3	9–12
12. Ms. St	33–40	Supervisor/owner	6+	16+

### Portraits of the Participants

Ms. C is a woman in her early 20s who works in a small-size consulting business (less than 100 employees) as a secretary and office assistant. Born in the Philippines but having grown up in the United States, she began in 2006 as a receptionist, later was trained to perform some technical work, and became an assistant to the associates in the firm in 2008. Ms. C keeps active. In addition to yoga, she practices martial arts and is an active swimmer. She began practicing yoga 2 or 3 years ago.

Born and raised in the San Francisco Bay Area, Mr. D is an athletic 51-year-old male who works for a large corporation (more than 500 employees) as a stage manager in a movie studio. He is also a part-time actor who has been acting for more than 20 years and has been practicing yoga for more than 20 years.

A Caucasian 28-year-old female, Ms. E was born and raised on the east coast of the United States and currently works a secretary in a mid-sized law firm (less than 500 employees and more than 100 employees). As a teenager, she was employed in her parents' restaurant as a waitress and began practicing yoga at a very young age. She is a dedicated cook and outdoor enthusiast.

Ms. J is a Caucasian female in her late 30s who worked in retail while in college and is now employed in a Bay Area community center (medium sized) as a manager. She was a competitive athlete in college and an avid runner who is currently married and whose previous employment was in the health-and-fitness industry.

Ms. Jo is a Caucasian female in her mid-30s who works as a supervisor in a large independent production company in the Bay Area. She became a manager in 1999 and has had chronic back pain for more than 6 years.

A Caucasian male in his early 40s, Mr. J is a project supervisor in a small local retail store, where he works on updating the store's website and manages employees. Mr. J is also a well-known hair stylist and make-up artist for celebrities across the United States. In his current position, which he has had for the past 3 years, he acts as a liaison between the owners and all the store employees.

A Japanese-born American female in her 30s, Ms. K. started working in a small accounting firm in the Bay Area in 2005. Ms. K started working as a receptionist and is

currently going through a training process to become an accountant. As a child, Ms. K was actively involved in gymnastics but had to stop because of an injury. She also has had a longstanding interest in music.

Ms. L is a Caucasian woman in her early 40s who started working in production in a large independent production company. She has been with the organization more than 13 years and is currently employed as a project manager in production. As a result of having suffered from a hand and wrist injury, she discovered yoga on the recommendation of her chiropractor.

Ms. Lo is a Caucasian female in her early 50s. Born and raised in New York, Ms. Lo was involved in dance as a child but has not been actively involved in any organized form of exercise before yoga. Ms. Lo, who is an avid gardener, works in a small consulting company as a manager and deals with many of the firm's clients on a daily basis.

Ms. P is a Chinese-American who came to the United States to study, was an active basketball player in high school, and later taught boxercize as an adult. She is currently a partner in a small consulting firm where she supervises employees, promotes clients' relationships, and manages internal office work. She was responsible for bringing yoga to her workplace.

Ms. S. is a Caucasian female in her 30s who works as a manager in the legal department of a large production company. Ms. S. was introduced to yoga at her workplace. She has incidentally suffered from a thyroid condition throughout her life. Ms. S. recently had a baby and has suffered postpartum depression.

Ms. Se is an owner of a small business that offers yoga lessons to members of organizations. A Caucasian female in her 30s, Ms. Se not only teaches yoga but also practices yoga with her coworkers and has been active in the yoga community for the last 10 years. She was introduced to yoga in high school when she suffered from a neck injury from being a waitress.

### Research Question 1

#### *How Does Yoga Affect an Individual's Stress Level?*

All participants provided many reflections and offered complex perspectives on their various experiences with yoga in the workplace. In reviewing the participants' interviews, four themes can be clearly identified for the first research question: (a) self-awareness, (b) stress/tension management, (c) improved physical health, and (d) improved psychological outlook.

#### *Self-Awareness*

One of the prevailing themes among those interviewed for this study was the experience many described as a greater awareness as a result of the yoga practice. The participants described this developing sense of self-awareness with various terms such as acceptance, confidence, greater alertness, consciousness, and ability to take a step back and see what was happening both internally and externally. For example, Ms. Se recalled that she had emotional/stress issues and thought she was heading toward depression before she found yoga practice. She recounted,

Yoga makes you aware of your thoughts, your breath, your emotions. . . . In the beginning I had all unaware issues; yoga brings you awareness. As the physical creeps in or as the emotional tension creeps in, or when your mind is scattered,

you start becoming aware just by practicing everyday, turning into the breath, slowing down, checking in to see what's going on in my mental state and sometimes the physical is a measure of that, to see how your body feels.

The point is one Ms. Se returns to again and again throughout the interview—yoga provides the room and the discipline for gaining awareness both in the external environment (through alertness, concentration, and focus) but also internally, as a contemplative exercise. In Ms. Se's interview, it is clear that she was able to use yoga practice to comprehend how preexisting conditions caused by stress in the workplace were affecting her. Yoga—through exercise, breathing, and meditation—allowed for greater self-awareness and awareness of the work environment.

Ms. Lo stated that she was a little apprehensive about yoga 5 years ago before she decided to start the practice. Once she started yoga, she realized that it “was the best thing I've ever done for myself.” Ms. Lo reflected that one of yoga's benefits was an increasing self-awareness and a chance to see herself differently:

I'm able to look inside better and see what's bothering me and how I'm affecting other people. Before yoga, I think I was oblivious. Now everything is good. ... We tried not to take stress on too much, but you always obtained it and it stays with you. So [yoga practice] helped me address that. ... You see yourself differently.

Ms. Lo explained that yoga was a way for her to gain more patience when dealing with day-to-day issues that may lead to stressful situations. Ms. S supported this idea, explaining that when she gets stressed, yoga practice is a way for her to become more aware of how she holds stress. By recognizing how she tenses up, Ms. S uses yoga to gain greater awareness of her changing moods. Through the breathing exercises, Ms. S was more able to take time to consider how she managed (or failed to manage) her tension around certain “challenging situations.” Mr. D, who has been practicing yoga for

the past 20 years, also talked about self-awareness, not only as it applied to physical awareness but importantly, to mental and emotional states. He recounted,

I wasn't very focused, and was easily distracted. You know, my brain would get tired and then I'd get tense. I do think a lot ... so I sometimes held my breath because I was thinking too much, but since I started yoga practice I've learned how to breathe and how important breathing is to clear up the mind.

Mr. D's suggestion is that yoga helps focus and organize one's thoughts when dealing with states of tension and fatigue. Yoga practice provided a calming influence and greater clarity. He said he was not only more alert and calmer (which gave him the opportunity to look at issues with greater clarity) but he also began to "appreciate himself so much more." He explained,

I do have much more impulse control compared to when I started practicing yoga. Now I'm much more aware of an impulse and so I can choose not to give in. ... It's all related, I would say and [I have now] a heightened awareness and the ability to reflectively relax, under almost any circumstances and [it] has given me a healthier outlook and perception.

This was true for Ms. C as well, who stated that even though she is a very patient and disciplined person, yoga helped her gain clarity and calmness around a particularly sensitive issue involving food. For Ms. C, yoga increased her awareness not only of her body image and the importance of eating healthily, but of particularly difficult struggles surrounding eating. She explained,

I'm Phillipino. I was raised on deep-fried everything. (Laughs) Seriously, a lot of salt, a lot of carbs, a lot of oiliness. You can't do that when you go into yoga. You'll be gasping for air, you'll sweat too much, and can't hold our positions. Your body is a temple right? So I'm a lot more picky about what I eat and how much I eat. It's easier now but before it was a lot harder to control those impulse cravings.



Like many of the other participants, Ms. J said that since she started practicing yoga, she has become more aware of her emotions and recognizes that she doesn't get as angry as she used to get. Ms. J, however, emphasized how taking yoga influences the course of her day. She explained how yoga not only had long-term impact (creating positive mental and physical change) but also was quite meaningful in the short term, and was an important part of how she came to experience day-to-day activities. She said,

I know I do yoga in the middle of the day now, three times a week if I can, and I feel its necessary some days. You know, I can have a really bad morning and not want to go, just be grumpy, and just force myself to go, and it will change my whole afternoon.

Mr. J added his thoughts after the interview that although initially he began with the goal of yoga to improve his physical health, his interest eventually evolved into seeking deeper psychological and emotional levels of health. This second tier of interest soon became the most important part as greater and greater self-awareness had the greatest impact for him throughout his history of practicing yoga. He recounted that in the beginning of the practice, he knew he felt good, but,

I wasn't really aware of the relationship changes with other people or how my changing was affecting how I dealt with other people. But now I can see that it comes from the hindsight. Just becoming more aware ... just looking over my actions and reactions, and part of it is growing up, but just having an awareness of how you affect people and how other people affect you.

Mr. J attributed to yoga the first time in his life when he was able to gain a greater and more compassionate understanding of how he impacted people. It offered him the time and space to see his interactions, thoughts, and feelings (as well as his body's actions) so that he was more able to think about what he did and how it came across to others. He explained it was only after he began practicing yoga that other changes in his

life (such as lifestyle choices) were possible. Yoga offered this rare opportunity for him to gain a greater sense of who he was so that he could learn more about how he acted and reacted in different situations.

### *Stress Management*

Participants from all levels of employment unanimously claimed to have high degrees of stress. According to all accounts, yoga enabled each individual a new way to manage their stress. In one interview, Mr. J reflected that stress will always exist at the workplace. However, he noted, with yoga practice, he now has “the tools to manage the stress.” Ms. E expressed a similar experience. She looked on yoga as a tool to deal with her stress, especially at work where there was little time to step back and understand the strain that she and other employees were experiencing. For Ms. E, yoga offered a space to maintain a sense of calm amidst a rushing and busy office culture. She explained,

Doing [yoga] over the years has helped a lot in giving me tools to be able to manage my stress, I would say on a general level, but because work is such a big part of life anyway. It has helped me cope with work-related stress and helped me maintain a sense of calm. You know, there are little exercises that you can do when you get really stressed out and don't know how to handle it. You can take a couple of minutes and relax and find some focus to kind of come down from the stress. I have a high level of work stress in general. So when I was taking [yoga], my work stress was a lot lower, especially because it was onsite. So it kind of helped me become comfortable in my office ... and definitely having something like yoga was so helpful and positive in my workplace, helped me immensely.

All 12 participants repeatedly mentioned the importance of using yoga breathing (prana) as a tool to manage stress in a work environment where there was a great deal of pressure to complete work quickly . Ms. J stressed the importance of breathing as a technique to manage stress. She reflected,

When I think of yoga, I think of the big picture. ... It's the breath work, it's meditation. ... When I take a break from the practice, I definitely felt like I would internalize or take things personally a little more, so work issues, if I wasn't doing the practice then I would have more stress for myself than was probably necessary. ... I feel more grounded, I feel more able to handle things as they come rather than let them build up and stress about them. It gave me that ability to focus (manage) mentally rather than feeling like I had 20 things to do at a time and not finish anything and get back to it all later, so finish one project and move on instead of many hands in many pots.

Ms. Jo recognized her stress level was high at work before she started practicing yoga and she indicated that her stress started to grow about 10 years ago when she started getting into management positions. As someone who has an increasing amount of stress at work as well as a stressful personal life, Ms. Jo often suffered unnecessarily. However, when she started a yoga practice at her work, she was more able to find her footing and accomplish more as a result of the techniques. She explained,

My brain goes a million miles a minute. ... I can jump from one thing to the next to the next. ... It literally drives me crazy. Now I have a tool that helps me focus, whereas I didn't have that before. I have ways of meditating and breathing, you know, kind of calming myself. I have tools that I didn't know about before. ... Now I have a tool that helps me focus, whereas I didn't have that before.

As a tool for self-care and stress management, yoga was often seen as useful in a particular way. It was often seen as a way of being able to separate oneself from the stressors in the environment, to allow time and space for the individual to understand how that work environment was impacting them. Instead of reacting, getting angry, or impulsively doing something without thought, yoga provided a space to mindfully respond to situations in a way that was helpful, useful or, at least not defensive. Ms. C said that one of the most important things she learned from yoga was how to breathe when she feels stressed so that she might be open to whatever experience she was having. She explained that she would often find herself applying simple breathing techniques in

order to decrease her stress level. For instance, she described how the basic building blocks of the practice can have the most profound effects:

I have a lot of family, and I'm the youngest in an Asian family. Not the greatest position to start off with. Stress runs in my family too. My dad had a stroke due to stress so I've always known that that was something I was going to have issues with. ... A person can only take so much, you know? Eventually, you break down. I started to have health issues ... and it got worse. I lost a lot of hair. At one point I lost so much hair that they had to put me on prenatal vitamins to grow it back. At that point I knew things had to change. In my head I thought I was really good, but I wasn't. Once I saw the stress manifest itself physically, I started freaking out. I wasn't going to lose my hair. I made a decision that nothing was worth all that. I made a lot of lifestyle changes, and that's when yoga came in. ... I think the most beneficial thing about yoga is you learn to breathe. ... They teach you ... [to] inhale, [and] exhale. You take it in but you also let it go. That's very important. ... Yoga's basic teaching is how to breathe correctly and how to continue to breathe. Sometimes you hold your breath in tough situations, but the trick to get through anything is to breathe deeply, keep breathing, and to get all that oxygen through all those places in your body that need it.

Ms. C further explained that through basic yoga breathing, other things started to surface to help her manage her stress and to improve her mood:

You do all these things in yoga that you totally can incorporate into your everyday life, into your all-around mindset. There's this thing called corpse pose, right? At the end of the session you lay there and your instructor tells you to relax, to let it go, to offer up your exercise, to let your mind, not stop thinking but to let it wander wherever it wants to and sometimes that's all you need. It helps you get through the day with a smile on your face.

For some of the participants, the breathing, stretching, and poses were valuable as purely physical exercises; spiritual or psychological elements were deemed to be less important. For instance, Ms. P. made it very clear that she sees yoga as a physical practice, not a spiritual one, because of her religious beliefs. Ms. P was trained to be fitness teacher when she was in her 20s and is very knowledgeable about body dynamics. During her interview, she reflected on how she took what she wanted from the yoga practice and that for her, the benefits had more to do with the workout she got from yoga.

However, [the yoga instructors] do meditations sometimes chanting and things. I don't usually do that because of my religion. I'm a Christian. I don't do meditation. To me, it's my religion thing. I don't do meditation. I don't do bowing to the Hindu God. ... I take it as an exercise more than a spiritual thing. It helps me relax but I don't go into the spiritual stuff. [My body image] got worse actually, because I had my kid. ... My body changed. ... I got injured a few times with different [yoga poses]. My knees were strong and I was trying to do too much twist. It was the second year and I was pushing myself too hard. Since now after 4 years, I still can't do a lot of things, so I went to the chiropractor and acupuncture. You can't push yourself physically and it's ok. Now I learned after I hurt myself. I used to not think about it. You can't do it, but everybody's body is different. There is stuff I can't do and there is stuff that [the yoga class] can't do too. ... [However yoga] does teach you good posture, what are good postures. If you can do it or not, that is another question.

For Ms. P the physical merits of the class far outweighed any of the mental improvements even though she admitted that for others, yoga could bring positive changes such as maturity, life experience, and lessons you learn from daily living. She indicated yoga allowed her to decompress and that yoga was good for the workplace as a whole. She explained that the class itself, more than any of the spiritual teachings, was a place where coworkers could forget about the daily stressors and allow themselves to enjoy each others' company in a way that wasn't ordinarily possible:

I learned some techniques about breathing and just calm yourself down. That helps, just breathing itself helps: sit down and take a deep breath. ... Actually, it does help right after you do yoga. You feel like your mind is kind of clear, right after. Let's say when we walk into the [yoga] room, we're usually thinking about the client or this phone call that was just made or I have to do this afterwards, and then during yoga, you just kind of forget about it because I can't put this leg there or put this hand there, you're just thinking about that. So you forget about what you were worrying about or what you have to do afterwards. So you get your mind cleared for an hour. And right after, you come out and feel fresh. So your mind is cleared and then jump back to work. So at least you get a little bit of not thinking for a little while.

### *Improved Physical Health*

All participants saw a noticeable improvement in physical health. For some, this was recognized as a decrease in blood pressure, in others, physical strength, and in others,

improved flexibility and posture (all 12 participants agreed that yoga has made them more aware of their posture). Although some participants questioned whether yoga was the only contributing factor to their improved health, almost all agreed that yoga unquestionably played some role in improved physical health, whether this was actual improvements in weight and muscle tone or whether this was the developing awareness that yoga cultivated about making good choices in eating and taking care of themselves. Ms. Se recalled that she had to deal with neck tension when she waited on tables and carried trays in a restaurant. She had to go to doctors for her neck pain. She found medications did not help her nearly as much as yoga. She explained,

My stress would manifest where I wouldn't know I was stressed until there were physical symptoms, either digestive issues or my neck. The chiropractor was saying I needed MRI. ... When I look back before yoga, I was stressed with these physical issues; once I started yoga, within a year all pretty much went away, including digestive issues. ... Probably the deep relaxation at the end as well as the gentle stretching and breathing alleviated that symptom pretty quickly.

Ms. C stated that she was not very good at releasing or decreasing tension at work. As a young woman of 21 years of age she was diagnosed with high blood pressure. She believes work-related stress was one of the contributing factors to her high blood pressure in addition to her social and family life. She stated that is when she found yoga at work, some of the simpler techniques proved to be the most effective for improving her physical health as well as her psychological stress:

The most beneficial thing about yoga is you learn to breathe ... how to breathe correctly and how to continue to breathe. Sometimes you hold your breath in tough situations, but the trick to get through anything is to breathe deeply, keep breathing and to get all the oxygen through all those places in your body that need it. And oxygen releases endorphins so not only are you physically taking care of yourself. ... So now when it gets hectic at work, I just breathe, you know, simple but it works.

Ms. C explained that at age 24, her high blood pressure was under control, and she intended to keep up with the yoga practice because she found it helpful. However, she also stated that she was not sure if yoga is the only contributing factor to keeping her high blood pressure under control because she also is an avid martial-arts practitioner and swims laps at the pool. Yoga, however, was particularly helpful as a way to “counteract the work stress” and her practice had a very positive impact on her physical condition. She said she hated to admit that she would care about such superficial things but she is feeling good because many people have told her how good she looks with the drastic weight loss that accompanied her regular yoga practice.

Ms E recalled that when her physical health was not very good, her family encouraged her to try yoga practice (her mother was a yoga teacher). Yoga was seen not only as an exercise but as something that could improve one’s ability to breathe. Ms. E explained,

My mom had encouraged me to try [yoga] because of its focus on breathing techniques. I was a pretty severe asthmatic and I had really allergies all growing as a kid from about 3 years old. Middle school and high school it was pretty bad. I got really sick in high school. I don’t know but I could speculate that wasn’t long before I started [yoga] because I got a really bad lung infection that lasted a long time. And my mom was encouraging me to do things to increase my lung capacity and my physical health. Because even though I exercised and danced and I was pretty active, my body wasn’t very healthy. I ate healthy food because I didn’t really have a choice ... but on a basic level my body wasn’t very strong, especially my lung capacity.

When Ms. E worked at a law office that offered yoga, it was a return for her to something quite familiar. She recalled that once she started to practice regularly at work, she noticed that other changes in her lifestyle were starting to happen.

Stress in terms of my physical health has gone down since I’ve started doing [yoga] at work. I think because once I started focusing on one thing that is helpful

to my health, it kind of encourages me to do other things, like eat healthier, and do things that aren't as destructive. ... [Yoga] has helped me become a healthier person.

Although her physical health condition has improved by returning to yoga, Ms. E, like others, did not attribute all aspects of her health to yoga. She was unsure if her blood pressure had changed but clear that her posture improved after having started a continuous yoga practice:

I don't know how it's affected my blood pressure. ... I do know my blood pressure is really low in general. I don't know if yoga has affected it. I think so, but I've actually been looking at my blood pressure readings for the past 2 years of my doctor visits because they keep all that information online in my medical record. I've noticed that it's significantly higher for me but not quite high for normal population. ... Posture has definitely helped. I'm slouching right now but it has helped posture immensely. Stamina has been helped out a lot too because it's kind of like a recharging so it gives my body the ability to bounce back from other things that might be physically taxing on my body.

Ms. E reflected that the overall impact of yoga physically was positive even though she was not sure if yoga helped her digestive system. She appreciated the physical flexibility that yoga has helped, for she valued flexibility as one of the important factors in maintaining good physical health.

Like Ms. E, other participants were not sure whether yoga impacted their blood pressure. For some, like Ms. J, yoga's impact on physical health was something she had witnessed rather than experienced first hand. Ms. J, who works in a community center, also occasionally teaches restorative yoga; she recalled one of her students, a scientist who

measured ... people who have high otherwise unregulated blood. And there's one pose in particular. Legs up the wall, so supported legs up the wall. And the low back and the pelvis is supported by the legs up the wall. Tests that they've taken before and then being in the yoga pose for about 20 minutes and then taking the blood pressure afterwards, there is a level that definitely drops. And my



knowledge is that inversions in general, anytime you're inverting the body, there is more direct pressure on the Vagus nerve, which regulates blood pressure, so its definitely helpful.

Ms. Jo continued with this theme when she explained,

I can say for sure that physically I feel much better. I have had chronic back pain for years and years, my whole life, whereas that's kind of I get but much less. I think I feel generally feel better. I'm in better shape. I was never one for exercise either but there is actually physical change. I have terrible posture for a long time, I just notice it more now. And I'm more conscious of it. And I actually think I know, I know I have developed muscle tone in places down in my core. So I can comfortably stand up straight and walk straight and everything now. Definitely I've notice the difference in that.

Ms. K also told us that her back problem improved, and Ms. L stated that after trying a chiropractor, nurse, and massage therapist for her wrist problem, she took up yoga practice and it was the only thing that "worked." She had never considered yoga before but because her doctor recommended it and because a class was offered at her work, she took a chance and reported that the symptoms of her wrist problem decreased dramatically. Ms. S. said practicing yoga helped her with her low-thyroid issue and her postpartum depression. Now after having done yoga regularly, Ms. S reports getting less tired, feeling better, and having more stamina.

Weight loss was also a factor in physical health. Both Ms. C. and Mr. J. indicated that since they've become more involved with yoga, they are making better choices in eating and seeing improvement in some of their weight-loss goals. Ms. C lost 20 pounds through the 3-year period and Mr. J lost 70 pounds.

Ms. P brought up a very different and valuable perspective from a physical part of yoga practice. She recognized that there are certain poses one should not attempt to force oneself to do; one should know one's body and should know its limitation when practicing certain yoga poses. Being an athletic person herself and having suffered from

some minor injuries from other exercises, Ms. P acknowledged poses are done in relation to your own body limitations. For Ms. P, participating in regular yoga activity was beneficial (so beneficial that there were physical effects when she stopped for long periods), but only so long as the practitioner is aware of their body's limitations. Yoga, she suggested, helps prevent injury but it can also cause injury if one is not careful with the stretching and balancing exercises. She explained,

I have some injuries after that and if I don't do yoga for awhile, let's say 2 or 3 weeks, sometimes I don't do it. ... I miss it, I can feel my back; it's been hurting, but once I do it, I know its definitely yoga because my body just misses it. We sit a lot so my hip and back usually and the neck is stressed, where you carry your stress and those get stiff. I just miss yoga and I just need to get back, maybe a week and it'll be better. ... I will try to go to yoga because I have a lot muscle pain in my back and neck. I get massages every week and that helps a little bit too.

Ms. P's statement is very important to this research because it provides a perspective that was not fully considered in the questionnaire—the inherent risks involved in yoga practice. Ms. P. has been practicing yoga for more than 4 years and had taught other physical exercises before; her views on yoga, given this background, are valuable to our findings.

#### *Improved Psychological Outlook*

All the participants were very open about their mental states before and after yoga practice. Ms. C. said she is much happier after yoga practice, an improvement so obvious that other people took notice. Mr. D who has been practicing yoga for more than 20 years recalled that he is more alert and appreciates himself more than before he had started yoga practice. He started yoga for mental health:

I wasn't really focused, and I was really easily distracted, you know, my brain would get tired and then I'd get tense, I do think a lot. ... So I sometimes held my breath because I was thinking too much. ... Since I started yoga practice I've learned how to breathe and how important breathing is to clear up the mind. ... I feel more alert, and I can concentrate calmly and cut off all the rest ... and I appreciate myself more.

Ms. E indicated that her mental health was not healthy before she came in contact with yoga. Ms. E stated that her mental state was

definitely a mess, My mental health stress was extremely high. Extremely high. I spent long hours and days crying over how much I hated life and myself. A lot of it continued for quite sometime. ... By doing [yoga] over the years, it has helped a lot in giving me tools to be able to manage my stress. ... Stress level mentally has been reduced gradually over the years. I can see where it has been reduced when I was practicing.

She further shared that her interpretation of her overall psychological health improved because oxygen and breathing in poses are good for a person.

I've practiced breathing into poses. It feels like drinking water basically, in general but especially when you're really thirsty, like drinking water just feels really good because your body needs it and you just give in to it. And it kind of does that to the mind too.

Mr. J said from yoga he learned how to make better choices and decisions in life. He reflected that before yoga, 10 years ago, he was a "mess, psychologically." He recounted that he would self-medicate his problems by drinking, smoking, and drug use. He offered a vivid description of that time:

I was a mess, I was a heavy smoker, I was a heavy drinker, I did drugs, and it was all forms of what I thought was self-medication ... almost a state of entitlement to it, like I deserve this ... not having the knowledge of I'm actually hurting myself. ... Oh, I had a crappy day. I deserve a treat, and that treat can be a shot of whiskey or a cigarette or a piece of cake, but the reality is you're not treating yourself; you're actually harming yourself. To treat yourself would be to sit down, breathe, have a glass of apple juice.

Ms. J reflected on her psychological changes by stating that before she took yoga, she would get mentally stressed out if she was invited to a social function. After yoga, Ms. J realized that there is definitely a change in the energy level, “the ability to let things roll off a bit easier.” This ability to let things roll off a bit easier, she explained, allowed her to feel more connected with “outward energy.” This ease of mind, for Ms. J, is connected to the newfound ability to not take things so personally in stressful moments or times of conflict. She explained,

The mental ability to know that this isn't really about you, it's about something else ... the ability to let things roll off a bit easier ... definitely in terms of stress, like I said, a difference in energy level ... and your attitude is completely different.

Ms. Jo stated that she has a very stressful job by its nature. Like a few other participants, she was not sure to what degree yoga factored into her stress relief, but she stated that yoga certainly was a factor. However, for Ms. Jo, yoga had its greatest impact in the short term. Ms. Jo believed that practicing yoga improved her psychological state for a short time after the class was done or until another stressful situation came along. She was not sure to what degree yoga had an impact on long-term psychological changes:

I'm a much mellower person now. ... I can chill out a lot easier than I used to. That's for sure. ... I would say personally for me the effects are shorter term. ... If something is going on and I practice, I immediately feel better. If I continue and keep it up and go every few days, it definitely lasts, but I'm the type of person who gets stressed out and it's very easy for me to go back into being stressed out. ... But I know psychologically I do yoga in the middle of the day now, three times a week if I can. And I feel it's necessary some days, you know, I can have a really bad morning and even not want to go and just be grumpy and just force myself to go and it will change my whole afternoon.

For some participants, yoga helped combat depression. For instance, Ms. K stated that she was very stressed in her personal life and her work. She was going through some

major personal life and work changes, and that made her feel depressed. She would go home and cry and feel miserable every day. She said: “I was just crying everyday and night. ... I have to struggle 24 hours every day. ... I guess taking yoga completely changed me.” One of the key ingredients in the change for Ms. K had to do with how the practice allows for trusting oneself. She stated,

Once I started to do yoga, it made a big change. [I have a] more cleared mind and a healthier mind. You have more trust, you can trust yourself. ... Let’s just say, I was feeling or thinking I was a failure before. I have more encouragement now; I can do this. I just trust myself. ... I didn’t know what to do before, never really thought about it deeply, just surviving, but now its not that I have to think about it during yoga practice, but it really made a change, for some reason. I don’t know why. Just so clear [now], in a more positive, more comfortable, you love yourself.

Ms. K stated that stress will always be there but yoga offers a clearer mind to deal with stressful situations, such that yoga offered her an avenue to achieve greater mental stability by providing space for clarity and self-awareness.

For not practicing yoga in a spiritual way, and for being the owner of her business and being partially responsible for introducing yoga to her workplace, Ms. P does acknowledge certain psychological aspects that may or may not be a direct result of yoga practice:

I tend to think a lot. I’m the type of person who can make myself depressed. I think too much about a lot of things. There were things happened before [I started] yoga: breaking up, things that affect me mentally. But things do affect me. I think I’m the most emotional person in the office. ... I get stressed and I grind my teeth at night. I haven’t been grinding my teeth that much, so I don’t know if its yoga or what. It could be life change, married with kids, you know, changes.

Ms. Se is another supervisor/owner and saw yoga as impacting the psyche because of the spiritual questions and reflections that are often stressed in the practice. For Ms. Se, practitioners have the opportunity to internally change and move toward

greater states of health by virtue of the broader, more spiritual questions that come up, questions that go “beyond the physical.” She explained,

All the physical symptoms are the easiest part and people are drawn to it for those reasons. But yoga is such a gift because what it’s doing if people choose and if it goes beyond that physical, then it goes into why am I here, what is my purpose, how can I serve others, how can I connect my spiritual centers? Even in the corporate setting and people can come in just for work stress and feel good but I can lead on to a whole life path and getting clear on their whole life outside of work. They might do yoga an hour at work, but they go home and feel better around their families. So it can impact every area of your life. We call it corporate yoga but all of it is yoga.

## Research Question 2

### *How Does an Individual’s Level of Stress Affect the Organization?*

Each participant provided many examples of how individual levels of stress impacted the organizations for which they work. The participants, in some cases, went to great lengths discussing stress at the workplace. Regardless of their position in the organization (entry level, middle management, supervisor, and owner/supervisor), all participants unanimously evaluated their stress levels as being in the high range, and all participants unanimously agreed that stress factors at the workplace played an important role in daily business activities. For many, the fact that work offered yoga was an acknowledgement of how much impact stress can have. For instance, Ms. C explained that a company offering yoga is showing employees that “your company really cares whether you are happy or not.” She says “happy workers are good workers, right?” Like all the other participants, she believed that stress affects employees’ attitudes and morale and therefore happy workers perform better at work. The themes that emerged are organized into the categories of quality of work and improved working environment.

### *Quality of Work*

Participants seemed to show a common frustration when it came to work stress. Work stress invariably negatively impacted the quality or the potential quality of their work. Ms. C said she has a job with “high stress” and when it gets too stressful, she feels she has a hard time getting her work done. Mr. D complained about working with coworkers when taking on more work and carrying tension with him all the time, as his responsibilities began to pile up more and more. Mr. D explained that

I don't like to work at a place that has a dark atmosphere. Of course, I was frustrated a lot, feeling stuck, sometimes I felt like my blood pressure was increasing ... and I would carry these issues with me and that affected my work a lot.

Ms. E often would take things at work personally. She explained that when she feels inadequate or when she worries, she does something wrong and that costs the company money, which makes her even more stressed. She explained,

I think the stress affects my performance in the way that I sometimes can just like show stress and also the way that I can interact with people when I'm stressed out. I get more short and flustered by things when I'm under stress.

At another point in the interview, Ms. E said that she didn't think that the stress affects her actual work performance, suggesting that although stress does not influence her actual performance, it negatively affects her expectation of her own performance (i.e., she believes she will not perform well).

Ms. Jo described her work environment as being extremely stressful. Because she is in a management position, not only is she responsible for people's careers, getting jobs, and laying people off, but she also has to deal with impatient and needy producers. She explained how anger often gets in the way of doing the best job she can:

There were times when I could just blow up with people or be short with them or curt. You know ... in my past I had a little problem with dealing with those situations and not responding in the best manner.

For some, the poor quality of work was a result of poor lifestyle choices they made. For instance, Mr. J reflected that he has been practicing yoga for more than 10 years, but before he started yoga practice, he did not know how to deal with stress and would use alcohol to deal with his stress. Now he is more aware of his own experiences and his environment. Mr. J mentioned his frustration with work-related problems repeatedly during his interview. He was “frustrated that they were happening but didn’t know or believe that I could change them,” that in his “frustration, [he] was more quick to be kind of angry,” that he did not have a conscious way of “releasing that frustration.”

Participants reflected on their stress and often saw stress as manifesting physically, in headaches or backaches. It also affected their concentration, and therefore their work performance. Ms. K, for instance, regarded herself as a stressed person by nature, but work would often play a critical part in her stress and affected her work. She said that stress affected her with time management, taking on extra work loads, creating misunderstandings, and people’s poor attitude. She made the following statement:

Making a mistake is very bad and stressful. ... I get frustrated ... when people start reacting like, oh I have so much to do, don’t even talk to me. ... Then I’m stuck with the issue, I don’t know what to do, I’m not allow to ask questions, they are too busy and then 5 minutes later, people might ask me: are you done yet? That’s the issue. I really get stressed ... then I feel tense and so tired ... my fingers start to shake and I cannot not type. ... I feel like I should disappear to protect myself.

This tendency to disappear is markedly absent for those who began the yoga practice. For instance, Ms L. believes that since she started yoga practice, she learned to



focus and she claims that if she can focus she becomes an easier person to work with. She said,

When I can give [coworkers, subordinates] my focused time, when I'm not as stressed, I'm more attentive to them. When my stress level goes down, my ability to have longer or give you the time you need and clarity in helping you figure out a problem keeps me where I need to be: better manager, to work the way I want to work.

As an example of how yoga creates an atmosphere that allows people to gain clarity about work-related problems, Ms. L described a day when she came out of her "savasana" (corpse pose), which was the last pose of the yoga practice, with "a great idea about a letter" she was having trouble composing.

For another participant, yoga's relaxing effects had more to do with catching up on sleep debt. Ms. P explained that as an extremely sensitive person, she often suffered from sleep deprivation. As an owner of a business, she had to deal with clients and manage her staff, and her own work made her very anxious and tense. Along with a new baby, it was common for her to barely get a full night's sleep. However, despite these stressors, when Ms. P practiced yoga, yoga improved her sleeping and as a result, she performed "much better at work."

### *Working Environment*

Participants all talked about the importance of the working environment. A stressful work environment seems to exist in some variation for every participant in this study. For some, this included pressure not only to complete work but to be a particular way. Ms. J, for instance, explained that the stress in her work environment was that she had to please so many different people all the time:

I managed the yoga program, the spa and I'm the marketing coordinator for the fitness center. ... I was constantly pleasing, I have to please many parties. I am the liaison. I find that I always end up in the middle. I am the mediator. ... I get stuck in the middle a lot which can be stressful. ... Recently, about a month or so, there was a lot of transition in our department, the morale was at an all time low just because people were being indecisive and upper management, you know, you have regulations you need to abide by with HR think and things like that. So people weren't doing a good job. You know, everyone was rallying around, knowing this person wasn't doing a good job. ... If there's one person, we're all in it together. And if one person, you have to have that world view. If one person is—it affects the whole unit if one person is indecisive or not happy with their job and taking it out on other people or sending sharp e-mails. So it's a community. We work really closely together. It's an ant hill.

The image of an ant hill resonated with what other participants said about the way stress levels were correlated with their interconnectedness with other workers. Ms. Lo, for instance, who stated her stress level goes up when everyone else in the office is stressed, explained how much her own moods were affected when her office became busy and other workers acted stressed. She explained that in her office, “you can feel the stress and the energy from everyone else. It's very tense. You feel it immediately.” She stated that her own stress level would go up, and the whole office became a stressful working environment. And she would get very “withdrawn” at work during times of great stress. Ms. C said when work gets stressful, the working environment gets harder, even though she said: “It's not like it's a bad work environment. There's just certain times where it gets so busy and you go to work and you have so much to do” and that stress made the work environment seem difficult to bear.

Ms. E indicated that the work environment sometimes gets pretty difficult to deal with when her boss and coworkers make unreasonable demands on her. This is what she considered makes for a “quite stressful” work environment. She related the following experience:

Working in a firm, things can be very fast paced; people will want things right away. And especially in my position. I'm kind of a service person in my position. If people are looking for books, they ask me and I have to find them for them and sometimes they're not on the shelf and sometimes I don't know who has the book. They need that book right now so they can do x y and z, and so I have to kind of drop everything and go look for it and that can be pretty stressful, not knowing if I can find that thing they need. ... Some people manage their time pretty poorly and that kind of spills into other things they have to do or things that I have to do for them. Some people are just generally stressed out so it rubs off on me.

This episode illustrates what many of the participants of this study alluded to, that stress in the workplace is, among other things, a product of other people's stress. For Ms. E, the stress at work is a result of how people manage or fail to manage stress around her. Ms. C also provided an image of her office as a place where many people are demanding many different things from her. She provides services to people in her firm that feel "downright busy" and everyone gets stressed. She said "after awhile, it does take its toll on you, mentally and physically. Emotionally too because you can't be stressed and be in a great mood." When the working environment gets so stressed by everyone, she just wants to "go home." Like many participants, Ms. C observed that stress at the workplace can create, ironically, an atmosphere inhospitable to getting work done, and this stressful atmosphere is as much a product of the other workers as it is the amount of work that needs to get done.

### Research Question 3

*How Do the Relationships Between Members of an Organization Benefit From Group Yoga Exercise?*

Participants shared very similar experiences in their responses to Research Question 3. Most participants showed great interest in this question and had many reflections and experiences to share. The themes that emerged from the reflections from

each participants are discussed in the following order: (a) bonding experience, (b) mental/psychological flexibility, and (c) less competitiveness, more ease working out conflicts.

### *Bonding*

Participants saw a noticeable improvement in their working relationships with their fellow yoga practitioners. Some thought they found things they didn't know about coworkers, while others felt that even when there was no change in individual relationships, there was a greater sense of belonging and pride connected to their employer. For instance, Ms. E works in a large firm and didn't know people that she doesn't interact with, but she felt that having yoga at her workplace certainly helped to bring people closer together and introduced her to people she wouldn't have known otherwise. She explained,

[Yoga] helped me to kind of break ice with people because our [yoga] class was mixed. It was attorneys and staff members all together. You're doing yoga with the partners or section heads of their department; it's kind of intimate. I mean you're rolling around on the floor with these people. And I think just the nature of it kind of helps people be a little bit more relaxed around each other. And it definitely improved my relationship with the people in my [yoga] class while I was doing it and it helped me open up more to the people in the firm.

Ms. L said that because she works in a large organization that has so many different departments, people who she wouldn't have met otherwise have become familiar to her as a result of the class. There is a bond, she explains,

with people who I've met through yoga or who have a common bond ... and the girl who does yoga in my office is someone who I directly manage, so that's kind of a bond there. And she manages other people. Meeting after meeting after meeting the deadlines and pushing to get people to get stuff done, and for both of us [yoga] is just a release, so we've bonded over this shared interest.

Ms. C also feels yoga practice made her feel more comfortable with coworkers and her boss. She emphasized the healthy erosion of hierarchical relationships during the yoga hour and pointed to this as a way in which more human and deeper bonds were first seen as possible:

It kind of levels us. You don't think she's above or below me, you know, we're just a team kind of, you are just kind of looking at it like everyone is just trying to do their job and leave it at that. I think because yoga takes you out of that workplace mentality that it's easier not to really take things personally with other coworkers because you recognize them as another human being instead of someone you have to deal with at work.

That more human and genuine feelings of connection are possible as a result of yoga was also a reflection of Ms. J who saw how yoga affected her relationship with not only individual members but the group as a whole. She said,

Its definitely a means of camaraderie where we can come together differently than other forms of exercises. I think it creates a mutual respect, not like here's my manager in a separate entity, in separate office that I never see ... and it definitely creates a sense of kind of honor and respect.

Ms. Jo also shared the same enthusiasm for yoga as cultivating a shared purpose at the workplace. She saw the practice of yoga as a way of developing a greater sense of honor and respect between coworkers. She made the following comments:

I think there is a camaraderie among the group. There are regulars who go all the time. They are people who—we have different divisions in our complex and all divisions are invited and they are people who I never would have spoken to were it not for the class. And even people who I work with, in my own division, we have this little yoga connection now. And it has definitely created a camaraderie among those of us who go regularly. And you have your yoga buddies now at work. And I definitely have dozens of new acquaintances. You could call friends. I would have never had before. It's really helpful. It's actually nice that some of the higher ups go to classes. And they see you in there and you have this little connection with them. I actually think it's great that some of the higher ups, more executives go because they know that it helps them and that's the reason they go. Because they are totally stressed out and they need the break at lunch time and

that it helps them. And they see you there and see you as a kind of person who taking that little part of their day, and kind of trying to, you know, everyone is there trying to make their day better. And it makes you look different in their eyes.

Ms. K believes that yoga has improved her relationship with coworkers, and in particular, she saw yoga as cultivating bonds of attachment as well as breaking down walls of fear and apprehension. As a result of yoga practice, she was more able to discover a feeling of friendship with her supervisor, and gained a greater respect with people with whom she might not otherwise share such an experience. She said after years of practicing yoga together, relationships with her employers developed into something more caring and human.

Every year we get more attached, getting closer ... we feel more closer and a little closer and a little more comfortable ... not afraid of speaking out. Before the boss and worker sometimes very afraid of talking. ... I actually found out she cares about my life ... wouldn't mind spending time to listen to you. That's a really great thing. ... If I were the person before I start yoga ... I would say they are just pretending.

Ms. K stated that because she is a person who always values honesty and sincerity, yoga practice was such a powerful experience because it allowed her to get closer to her coworkers, knowing it is for real. Ms. Lo also related her experiences with "close" feelings toward her coworkers with continuous yoga practice. She said,

It's been great. ... It brings everyone together. You kind of lose your titles in the yoga room, and everyone just is friends. Just seems to be enjoying the practice. And it's a lot more relaxed and from that we're able to have a conversation. We're able to have a conversation. Not work related stuff. We're able to talk personal stuff. That's a big help. ... We've shared something, which brings you close. It's not just like an employer/employee relationship for everybody. I think what it is that yoga lets your guard down. That "employee guard." And you allow it more ... it's like a little family.

The majority of participants commented in some way about how yoga positively impacted relationships in the workplace, many of whom saw it as a way to interact with each other outside of the constraints of status and position. Yoga, as Ms. L said, “lets people put down their guard” and this opportunity for coworkers to “relax, decompress and exercise without those professional barriers” was generally considered to be one the great benefits for practicing yoga at the workplace. Ms. P said it is a good place to converse with coworkers and “socialize, an activity we do together” in the office.

#### *Mental/Psychological Flexibility*

Participants gave many examples of how practicing yoga has given them both physical and psychological benefits. One of the striking ways yoga conjoins the physical and psychological benefits is flexibility. Many of the participants recounted that yoga at the workplace offered a space to get beyond some of the more rigid frameworks inherent in the workplace culture. For instance, Mr. D recalled how

The calming influence provided by my yoga practice has generated a safe environment for [my] subordinates. I am more patient, also a good listener if they wish to tell me something. I listen because I start to respect each person and learned not to take on their stress. ... Yoga helps me to think more flexibly. ... I became more empathic and more able to therefore meet my coworkers' needs more positively.

In addition to greater flexibility with others, yoga was seen by participants as offering greater openness and compassion to one's own limitations. For instance, Ms. Jo, who described herself as having a “short fuse,” reflected that yoga has helped her to be more flexible when managing people at work. She used to get angry frequently but with yoga skills, she adopted an alternative way to react to the people she manages, because managing people

Definitely requires a lot of restraint. You know, with certain people, there is a lot of anger when you're dealing with people's performance. A lot of anger. And its hard not to react to that. ... I definitely kind of use my powers of breathing and try not to react and remain calm.

Mr. J's interview credited yoga with steering him on a path to make better choices in life. He could look at things from a different perspective as a result of the practice—from his own and from others'. The continuous practice of yoga has improved his mental flexibility throughout the years of his practice. He reflected,

Now I will spend a little more time to think hey, where is this person coming from, what is going on with them that would cause them to say these things or react like this today. And then realize, like I said, it's not my problem but knowing that if I'm flippant with them, now that is going to be in essence pouring gasoline on the fire and its going to make the problem worse. ... For me [yoga has] helped me ground myself and in being grounded I'm dealing with people in a grounded manner. ... It's enabled me to have more patience, to be able to be a little more compassionate and that the world doesn't revolve around me.

Ms. S also indicated that instead of reacting to coworkers' attitudes or unacceptable behaviors, she has learned to look at things from a different perspective. She did not know whether to attribute this change to yoga or "just getting older," but she has become more aware that she does not react and get angry as she used to. She has learned to better understand behavior and be more open about accepting coworkers' issues, and not take it personally as before.

I'm probably not as catty. ... If I see someone who is a little snippy and they have their thing, I don't tend to be personalize it. Start to be angry at the person, I think now it's shifted to maybe that person's just having a bad day. I don't know if that's yoga or if it's me just getting older, but there is a new perspective of like compassion or something. You know, you just kind of understand what that person's going through and not take stuff personally.



*Working Out Conflicts More Easily, Less Competitiveness*

Most participants recognized the effect that conflicts seem to become less stressful and more manageable after yoga practice. Mr. D reflected that “if we have some conflict sometimes during the day, after yoga practice we all reduce the stress, be able to have clear mind to think fairly and reorganize the issues. It has been very helpful, I have to say.”

Ms. Jo was not sure if yoga affected her relationships with her superior or her coworkers but she commented that when she manages her subordinates it requires restraint that she finds it hard to manage. However, she found breathing techniques help her to remove herself from her impulse to react. For Ms. Jo, one of the benefits of yoga was that it stemmed her impulse to get angry and in doing so, was a form of resolution. For Ms. Jo, yoga was a prophylactic against an inner impulse toward expressing negative emotions and thoughts. She explained,

You know, with certain people, like I mentioned before, there is a lot of anger when you're dealing with people's performance. A lot of anger, and it's hard not to react to that. Negatively, you know because its not your fault. I definitely kind of use my [yoga] power of breathing and try not to react and remain calm.

Ms. K, who claimed she often becomes stressed at work, repeated that even though stress at work appears on a daily basis as a result of conflicts between coworkers, these issues were also mitigated by the yoga practice because it provided a safe atmosphere where any disagreement or issues were put on hold (and therefore put into perspective) during the collective yoga time. She said,

Where there was a bit of “attacking” moment, and we have to be together practicing yoga ... but after you do it, you'll be fine; you can apologize. ... After practice, people calm down and say ok, let's start again. A nice deep breathe, that clears up everything and start everything over again.

Ms. Lo also saw yoga as providing a shared space where conflict was put aside for the moment. She explained that yoga was a respite from the conflicts in the office, specifically because yoga cultivates noncompetitiveness. Ms. Lo shared her experience regarding office work conflict by stating,

you could even have an argument with someone but when you are in [the yoga studio], it goes away. It helps the work itself. Things get done better. It really helps. I think every workplace should have it. . . . It's not a competition with who you're working with. It's what you are able to do that day and what you need that day from the practice.

Ms. Lo's observation that it is not a "competition" points to a particular dimension of the yoga practice: yoga does not create "winners" or "losers" so that instead of breeding competition between individuals, it can alleviate the natural competitiveness between coworkers in the work environment.

#### Research Question 4

*How Does the Organization's Relationship With Other Organizations Benefit From Group Yoga Exercise?*

Participants had a harder time relating to this question than the other questions in the interview. Some could not really address the question because they were not sure about what was being asked. Others didn't have the experience of dealing with another organization in relation to yoga. Those who offered a response, however, did respond positively. The themes that emerged from this component of the study are presented in two categories: increased confidence from clients and better working relationships.

*Client Confidence*

Ms. C viewed the fact that her company provides yoga classes as a positive image for their clients. Clients, she says, “get a kick out of the fact that our office pays more attention to physical and mental awareness than an office just having people come to work and laying around eating junk food.” Although Ms. E did not have first-hand experience with other organizations (because she provides services to people in her firm only), she knew of coworkers who had gotten positive responses from clients when they heard that the firm offered yoga classes.

Ms. P believes having introduced yoga to her office, her business image has changed for the better with her clients.

New clients are more relaxed. Some people are afraid to come to an accountant. But when they come to see office and see yoga, I think it makes them more comfortable and more relaxed. I think it may affect how clients feel about doing accounting and taxes with us.

*Better Working Relationships*

Ms. J saw that the fact that her office offers yoga has a major impact on her relationship with her clients. The fact that the community center that she works for offers yoga for its employees credits her work as a representative of the organization. According to Ms. J, yoga gives incentives to prospective members of the community and people she dealt with from other organizations. She said: “I’m always willing to help and willing to inform. In the world outside of where I work, I think [yoga] has had an impact.”

Ms. Lo reflected on how her business, by offering yoga, impacts clients and people for whom she provides service. She explained that yoga invites clients into a more

human relationship and this allows for the possibility of greater client loyalty in the future. She said,

That's been great because some clients come join us in the yoga. It's great. ... They love the atmosphere and they like to join us. ... Now they just feel like it's easier just to call us and ask us if we could do something, nothing demanding and like more on a friendship level. I think they just see it as a place they'd like to be and they'd like to stay as a client.

Ms. P reflected that yoga has made her more patient with her demanding clients.

Although she wasn't sure whether it was yoga that allowed her to gain more patience, she explained that yoga helped her to be more empathetic, more able to reflect and try to understand why some of her clients behave in certain ways, and therefore more able to help with their problems and needs. This patience helped her to have better relationships with her clients:

Rather than getting angry, which doesn't solve anything, you just kind of take a step back and calm yourself down. I think it helps with yoga, it makes you calmer, more patient. Teachers always say love, peace, and happiness. In yoga, you think about why people get to that level too.

Mr. J, who worked in middle management, shared a similar sentiment to that of Ms. P when discussing his business relationship with people outside the organization. He too had certain anger issues when dealing with clients, but after practicing yoga for several years, it

made me a nicer person, whereas in my frustration, I was more quick to be kind of angry. You know, like ahhhhh ... like saying things you regret instantly but they fly out of your mouth. Now I can breathe and just kind of like ok what's going on here? I think it's been beneficial because it has that ripple effect. Because I am calmer, and a situation presents itself to me, I am going to react to in a calmer way instead of sort of pouring gasoline on the fire. Yeah, so it definitely affects how I deal with [clients] and in turn how they deal with me.

Ms. S works for a large production company and saw yoga practice as “one of the best benefits that this company” offers. For Ms. S, yoga has made her more aware of how to imagine herself in other people’s shoes and, in effect, improve relationships with people from other organizations. She said the gift yoga gives is to help one understand

where the person’s coming from and what they’re doing [so you can] try to find the connection to deal with the business situation. ... I think it’s helped in that respect because it’s trying to see where the other side is coming from.

### Summary

The participants shared an immense amount of material and provided valuable information about their personal experiences with yoga at the workplace. All participants were open to sharing their personal feelings and experiences and all of the participants answered every question. From this vast amount of information, certain themes were developed to organize the nuanced and highly individual responses to the various research questions. These themes are intended to group together multifaceted responses in order to substantiate more precisely how yoga impacts the individual’s stress in the workplace. This study explores a complex set of issues reflecting yoga’s influence on the individual and the organization as a whole; the questions posed to the participants have no one single answer. Rather, they are answered through what is shared in the diverse viewpoints. The study revealed the following about yoga practice and stress levels among individuals in an organization:

1. Research Question #1: How does yoga affect an individual’s stress level? The recurring themes from the interview transcriptions can be divided into four main categories: *self-awareness*, *stress management*, *physical health*, and *psychological outlook*. Every participant claimed that yoga benefited them by

increasing awareness. For most, this meant an increased ability to notice what was happening both inside themselves and in the environment around them.

The majority of participants also noted that stress management was one of the central benefits of the practice and breathing techniques was to be counted as the most effective stress-reducing tool. The majority of the participants considered the physical benefits of the practice to be positive. One participant, who also noted the health risks involved, suggested that it's best to approach yoga with an awareness of one's physical limitations and condition (Ms. P).

All of the participants claimed to have undergone positive changes in psychological outlook regarding their work or social life, but not every participant (Ms. S and Ms P) was certain that yoga was the only contributing factor in this change. Ms. P questioned to what degree yoga was the primary factor in stress reduction, suggesting that people change through maturity and not merely through yoga. Ms. S stated that although the change in her attitude was affected by yoga, she did not believe it was solely responsible. All 12 participants believed yoga helped manage stress but different participants recounted different ways in which they typically expressed stress (through anger, depression, overeating, and isolation). There were also varying points of view about how yoga helped. For instance, although Ms. P. claimed that physical exercise had more impact than the spiritual part of the yoga practice, most participants claimed that yoga helped by providing a means of self-reflection.

2. Research Question #2: How does an individual's level of stress affect the organization? The major themes that emerged in the interviews were *quality of work and working environment*. Despite the varying levels of job status, all participants evaluated their stress levels at work as being in the high range. They unanimously agreed that stress negatively impacted the quality of their work but there were varying points of view about *how* stress negatively influenced their work. For example, Ms. C, Ms. E, and Ms. K, all entry-level employees, worried more about making mistakes and costing the company money (Ms. C and Ms. K in a small business, Ms. E in a mid-sized firm). Others saw stress impacting performance over time, attributing the ongoing pressure to complete work as a factor in depression, substance abuse, anger, and anxiety. Every participant claimed to have a stressful work environment but 7 participants saw stress as being infectious or a result of others' stress. In other words, stress levels were seen to go up when everyone else in the office became stressed and this creates an inhospitable work environment. Several participants commented on how stress can build not only in a particular individual but in the culture of the office environment. The majority of participants saw that yoga was an asset to the business because it helped decrease the cumulative effect over time by providing a healthy work environment.
3. Research Question #3: How do the relationships between members of an organization benefit from group yoga exercise? Three themes emerged as a result from the interviews: *bonding, mental/psychological flexibility, and*

*working out conflicts*. Although the majority of participants commented on the benefit of yoga on the relationships between the individuals at the workplace, there were differences between participants about *how* the bonds in the hierarchy were impacted. All three entry-level people felt more comfortable after doing yoga with their boss. Entry-level participants felt they were treated as the equal of the other participants regardless of job status. Middle-management participants claimed to be able to be more understanding of the people they manage, and feel more connection with their bosses.

Supervisors and supervisor/owners admitted there is a level of comfort when they practice yoga with subordinates. Five of the participants said that one of the central benefits of yoga is that it provides an alternate mode of managing conflict when it arises. Eight of the participants saw yoga as offering a way of considering stressful situations from a different perspective and this was often one of the reasons for improved relationships between the individuals. Four of the participants said that yoga helped with conflict resolution insofar as it allowed a conflict-free space where individuals could forget (for the hour) about whatever had gone on before that time. Although many agreed yoga had a positive impact on the dynamic between members, there were differences as to what degree the effects lasted. Whereas 2 participants (Ms P and Ms Jo) thought yoga's calming effects were short-term for working out conflicts, 10 saw yoga as having both short-term and long-term effects.



4. Research Question #4: How does the organization's relationship with other organizations benefit from group yoga exercise? The recurring themes for this question included *client confidence and better working relationships*. There were few responses to this question that were valuable to the research because 7 participants did not have direct contact with members of other organizations. However, those 5 who did have direct contact with members of other organizations saw how the ethos of yoga (in which individuals gain greater focus, clarity, ease of mind, and patience) benefited the sometimes-stressful client/vendor relationships. Two of the participants had second-hand experience with members from other organizations, whereas 7 saw the benefit to other organizations (whether or not they had direct experience with members of other organizations) insofar as the participants imagined that "outside" members were often impressed by the yoga practice because it suggested a positive work environment in which employers were actively interested in the health of their members. Given this concept, the participants who made this comment viewed the practice of yoga to have a positive impact on the work environment because it bred client confidence and customer approval.

## CHAPTER V

### DISCUSSION, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATION

#### Introduction

The purpose of this study is to explore the impact of an ongoing (minimum of 2 years) yoga practice on the members of various organizations to better understand how yoga practice affects physical and psychological stress. Through open-ended interviews, this researcher studied the ways in which yoga benefited (or failed to benefit) the 12 participants from various organizations (small, medium, and large business entities). Because the participants varied not only in the type of business in which they worked (commercial retail, media production, financial, community center, etc.) but also in their level of employment (entry level, middle management, supervisor, owner), age, and levels of experience with yoga, the study aimed to find common themes among these disparate elements. There were 2 men and 10 women participants. The 12 ranged in age from early 20s to late-50s. The participants had diverse ethnic backgrounds (one-fourth of the participants coming from Asian descent) even though cultural, racial, economic, and religious diversity was not a criteria for participation.

This research revealed the impact of practicing yoga on the organization through the reduction of stress of its members, thus improving the overall health of their organizations. The researcher affirmed the great potential of a wellness program (such as yoga) as an important and effective way to manage stress at work. The researcher began to understand the complexities of how yoga, in particular, is an effective means of stress management at the workplace by studying the history, cultural vicissitudes, health research, and organizational theories in various journals, books, and publications. The

dissertation then tested this hypotheses that (a) yoga has an impact on stress at work, and (b) the reduced stress level has a positive impact on the quality of work and the work environment.

The participatory research was conducted as an hour-long, open-ended interview and demographic questionnaire of 12 participants who fit the criteria of this research: a minimum and continuous practice of yoga at the workplace for more than 2 years, over 18 years of age, and currently employed. Although the process used to analyze each participant's response was complex and the nature of individual experiences varies widely, certain themes emerged as participants offered sincere reflections on what was, for many, a powerful if not transformative experience of practicing yoga at the workplace. Four questions were used to try to better understand what was beneficial about yoga at the workplace and the responses provided useful information about the many factors that contribute to possibilities and limitations of yoga as a stress-reducing activity at the workplace. The discussion of the findings for each of the four research questions follows this section.

## Discussion

Research Question #1: How does yoga affect an individual's stress level?

The responses to this question suggest that yoga has direct and indirect effects on an individual's level of stress. The direct effect of practicing yoga is that it decreases the individuals' levels of stress while they are practicing yoga. The indirect effect of practicing yoga includes a much wider variety of influences, such as lifestyle choices, attitude, behavior, morale, and performance factors. In both cases, the research suggests that yoga does not eliminate stress as much as it is a tool for managing stress. The

researcher discovered that this tool can have short-term or long-term effects depending on the individual.

In how yoga impacts an individual, the research found that breathing and stretching were commonly considered the most important elements in reducing stress but there were no definite conclusions about how the combination of elements in the yoga practice, such as physical exercise, mental exercise, attention to breathing, and a spiritual component, may have contributed to overall stress reduction.

The questions were constructed to allow the participants to reflect on their work life, social life, and physical and mental health before and after yoga practice. This helped the researcher get a better understanding of each participant's viewpoint and experiences with stress. The researcher also posed questions that looked into how each participant viewed their psychological (body image, alertness, concentration, impulse control, etc.) and physical health (blood pressure, digestion, stamina, posture, etc.) in order to grasp how yoga might have changed these elements over time. Each participant responded to these subquestions by sharing their personal experiences about how they were able to use the yoga practice in light of their particular struggle with stress.

Although responses varied in what individuals found to be particularly internal stressors (anger, impulse, fear, isolation) or external stressors (deadlines, group dynamics), yoga seemed to be a way the individuals could gain perspective and therefore diminish the impact of stress on the body and mind.

Research Question #2: How does an individual's level of stress affect the organization?

In analyzing the responses to this question, the researcher was able to confirm that stress affected performance at the workplace and created an unhealthy work environment. Questions such as “How much stress is there in your organization?” “How often do you come in direct contact with stress at work? What kinds of stressors are there in your current work environment? and How do they affect your attitude, behavior, morale, and performance)? elicited responses that illustrated the wide variety of stressors, how different personalities manage those stressors, and how different work environments absorb (or fail to absorb) the stresses of everyday work life. Each participant was asked to give examples of the ways individual stress level impacted the group and the organization as a whole. From these examples, the participants gave the researcher a window into the variety of ways individual stress impacts the organization, such as panic, anger, illness, withdrawal, and retaliation; all ways in which stressed individuals impacted the group and organization.

Participants were asked a set of questions investigating the stress particular to their work environment to see whether different types of stress in different work environments might be addressed by the practice of yoga. All participants were eager to discuss stress at work and personal stress in order to describe how this personal and professional stress impacts dynamics in the organization as a whole. The researcher was also interested in the participants’ response to how each individual was impacted by stress (attitude, morale, and performance) in order to more closely identify what in the workplace was being impacted by individual stress. For instance, some participants who were prone to getting angry were likely to take out their frustration on others, whereas

others who internalized the frustrations of office life had a propensity for self-defeating thoughts and a withdrawn attitude.

Research Question #3: How do the relationships between members of your organization benefit from group yoga exercise?

The researcher discovered that the participants found yoga to benefit relationships at the workplace but not all participants agreed on why this was the case or which relationships in particular benefited. Because each participant was asked to discuss these questions by giving examples, the responses gave great detail about the different ways yoga was seen to benefit different work relationships. Whereas some viewed yoga as cultivating the overall attitude of an office, others saw it specifically helpful for dissolving vexed hierarchical relationships. Whereas some gave great weight to it, others saw it merely as an icebreaker for later conversations. This gave the researcher an opportunity to see the varieties among individual experience but also the complexity and breadth of the research question. The researcher was able to ascertain that yoga not only affects the relationships between people who practice yoga but also the practitioner's increased openness to other members of the organization who do not practice yoga.

Research Question #4: How does the organization's relationship with other organizations benefit from group yoga exercise?

The responses to this interview question were used to determine the impact of yoga on the organization not among the members who belong to that organization, but in relation to other organizations. Two major questions were asked: "How has yoga impacted your relationship with people to whom you provide service (e.g., customers, client, vendors, patrons, etc)," and "How has yoga impacted your relationship with

people who hold similar positions outside your organization (colleagues, competitors).”

There was a stronger response to the first question largely because more of the participants had more contact with clients and vendors than with others with similar positions outside the office. The second question did not elicit strong responses but from other questions in the interview, improved relationships with others outside the organization were strongly suggested. For this research question, each participant was asked to give examples. Those who had contact with other organizations were able to describe a positive impact on the benefit from yoga practice with other vendors and customers. Others who performed services solely inside the organization provided examples of how their attitude toward people outside the organization was affected. The research question suggests that yoga has a “global” impact in the sense that it helps improve the individual’s management of internal stress, stress in the office environment, and stress in relationship to outside factors (clients or competitors). This question helped the researcher better understand the overall effect of yoga as it helps to improve the relationships between organization members and other organizations.

### Conclusions

This participatory study strongly suggested to the researcher that a wellness program at the workplace such as yoga could (a) improve the overall mental and physical health of its members, (b) help its members to manage stress, and (c) improve the work environment. These findings lead the researcher to believe that a wellness program (such as yoga) improves the overall health of the members of an organization and therefore improves the health of the organization itself (C. L. Cooper & Cartwright, 1994). More research is needed to understand to what degree and how the organization benefits

(profits, productivity, etc.) and to what degree and how the individual benefits (worker loyalty, worker satisfaction, etc.) from the organizational “health” (C. L. Cooper & Cartwright, 1994).

In addition, although the research questions offered a wealth of information about what elements of yoga practice were beneficial to the individual and group, the study also raised many new questions. For instance, many participants commented that even though their organizations offered yoga classes to their employees and believed there was some benefit, it was hard to grasp what elements or combinations of elements of the practice itself were beneficial. Therefore, it would be worthwhile to hear from other participants from other organizations about what exactly it was about yoga practice that had such a positive and, in many cases, profound impact on individuals and on the organizations for which they work.

Four major research questions were presented to each participant during the interview. From the answers to each of these questions, several themes were developed and the researcher organized the responses into common or related ideas. The conclusions to the research questions are as follows:

Research Question 1 asked, “How does yoga affect your stress level?”

The study finds that yoga did contribute to helping individuals manage their stress and the main source of this help was often thought to be primarily through breathing techniques (all 12 participants). This conclusion was based on the fact that most of the participants explained that they managed to achieve certain levels of stress relief, using words such as *calmness*, *focus*, *relaxation*, *awareness*, and *being* to describe these benefits. All participants claimed that although yoga was helpful in managing their stress,



yoga was not a way to eliminate stress. Most saw it as a way to understand how stress affects the body and the mind so as to recognize it and therefore manage it. Some recognized that stress could affect their psychological as well as their physical health and many believed that yoga has helped them greatly to improve both their mental and physical health. Some participants raised the question as to whether yoga was the primary factor when observing shifts in their mental and physical health (attributing such changes to diet, exercise, or maturity). All participants also expressed a belief that psychological health and physical health are interrelated and that yoga is beneficial, in part, because it is an activity grounded in an understanding of the interrelationship.

All participants agreed that when stress is reduced, physical and psychological health is thought to be improved. Although men and women both emphasized physical improvements including strength, flexibility, and posture, the two men in the study highlighted physical appearance as a motivating factor in their practice, whereas the women underscored the emotional benefits.

Research Question 2 asked, “How does your stress affect your work in the organization?”

The study results indicate that stress levels of members of organization affect work performance and work environment in various ways. Although all participants recognized stress in their lives and all mentioned associated physical and psychological effects with occupational stress, answers varied among the participants about the source of most of their stress. Some, for instance, saw their personal life as being more stressful than work, and others viewed work as the main source of stress. Most participants indicated that stress had mental and physical consequences and most remarked that stress

made work harder. Several commented on how stress was a result of (and, in turn, created) a difficult working environment, and many reflected that stress in some areas outside of work often influenced office life. Some participants stated that although they struggled not to let stress pervade their work performance and quality, some amount of stress in the work environment was inevitable and some amount of stress was a result of encounters with others at work. Many raised concerns regarding work performance as a result of stress that goes unnoticed and, to the surprise of the researcher, every participant admitted to having a very high stress level at work.

Different levels of employment also made a difference on how stress affected work. Entry-level employees seemed to withdraw or get anxious when problems (stress) arose (waiting to “go home” or “disappear”), while middle-management supervisors/owners became angry and depressed when stress levels rose. However, despite the variations of how different participants managed stress, yoga seemed to have a wide enough berth to provide a means for these individuals to manage various stressors in the work environment.

Research Question 3 asked, “How do the relationships between members of your organization benefit from group yoga exercise?” Based on the unanimous response by the participants that yoga had a positive effect on members of the organization after group yoga practice, the researcher found that one of the main benefits of offering yoga at the workplace is to improve connections and relationships with individuals. Some participants (mostly entry-level and middle-management employees) experienced these classes as bonding experiences with coworkers with whom they might not otherwise have spent time. Some (mostly entry-level and middle-management employees) found the

exercises helped resolve conflicts between members, and some of the interviewees admitted that yoga made them more open to relating to members of the organization. Others (supervisors and supervisors/owners) regarded the classes as more of a social event. They believed yoga class provided them with greater management skills such as flexibility—offering greater openness and compassion to employees.

This research found that members in medium and large corporations benefited from yoga practice because practicing yoga with others from different departments allowed them to cultivate and develop relationships with others with whom they might not have had contact. This strongly suggests that yoga could improve interactions between departments, interactions that might otherwise not have included direct human contact. Generally, all participants noted a certain degree of closeness and feeling of connection with other members of the organization as a result of the yoga classes. Many found that one consequence of the class was that it not only improved the relationship between members of an organization who practiced yoga together, but with those in the organization who didn't practice yoga. In other words, yoga improved the health of the relationships in the office for those who practiced yoga even with those who didn't choose to attend the classes.

Research Question 4 asked, "How did yoga benefit the organization's relationship to those outside of their own organization?" Although responses to this question were less plentiful, those who did respond more fully to this question suggested that yoga had a positive benefit for the organization in relation to other organizations both in terms of the improved attitude of workers who take yoga and on the reputation of an organization caring enough to offer yoga to its employees. For those who worked directly with

clients, this question provoked a fairly uniform response: yoga helped the individual step back and gain perspective on some of the more stressful interactions with clients. For those who offered thoughts on the subject, the response to this question was that yoga did provide value in one (or more) of three ways: overall attitude toward “competing” businesses was improved, relationship with other colleagues was improved, and feelings of pride about working for a company that would offer yoga, seen as a sign of compassion and interest in employee health. Some participants did not answer this question because they were not sure if they had experience that would pertain. For that reason, the responses to this question did not get as rich a response as others in the study.

### Implications

The previous section summarized the impact of practicing yoga on the organization, and its stress-reducing quality on the individuals from a participatory research perspective. The reflective dialogues with all participants from Questions 1 to 4 could serve as a basis for a theory about yoga’s impact, grounded as it is in reports of actual experience from those using the practice to manage stress in the workplace. Work stress affects individual job performance in various ways and creates a stressful working environment. This study suggests that an ongoing yoga practice for individuals in an organization helps mitigate stress, build relationships between members, decrease anxiety, improve physical health, and cultivate a culture of caring.

The impact of yoga practice on stress reduction and on the organization is, however, a complex phenomenon and one that may not be completely understood by this research. Most participants seemed to believe that yoga practice provided a tool to manage personal and work stress and that it did have a direct effect on their experience in

the organization. However, it was not entirely clear, even from the individuals interviewed in this study, exactly to what degree it impacted the individual. One implication of this research is that yoga has different impacts on different people, especially given that yoga is a physical, psychological, and spiritual practice. That yoga encompasses such different aspects of an individual's experience suggests that it might provide different resources for different needs.

In addition, although yoga provided a way to deal with stress and seemed to improve the health of its members and of the organization, it did so in a nonheuristic way. In other words, that the practice itself was not articulated as a technique, was not a class to teach a skill, and was not a competition was an essential component of its effectiveness. That participants at all levels believed their stress level is high at the workplace came as a surprise to the researcher, and that all the participants believed that yoga did not eliminate stress also surprised the researcher. Also, all the participants attributed the structure of yoga, provided by the organization, as part of what helped members with daily work stress.

#### Recommendations to the Profession

The results of this study suggest that yoga is a resource for members of an organization to reduce stress, improve attitude and morale, and thereby increase the health and overall performance of the organization. One recommendation that is suggested by the research is that organizations consider incorporating a regular ongoing yoga practice as one of the management strategies to help develop and maintain the mental and physical wellness of employees. Were management strategies to integrate yoga into the organizational culture, it could prove to be a cost-effective means of

bringing balance and harmony to the workplace, and ultimately foster individual contributions toward a better-performing organization.

Although yoga's popularity in the West continues to soar, it is still a practice that requires a great deal of prior knowledge as to how to teach and how to learn from the practice. It is the researcher's further recommendation that were yoga to be incorporated into a business practice, it is of great importance to do a preliminary assessment of the feasibility of teaching yoga and making it accessible to the individuals at that business (the physical space, employee interest, and time availability). In addition, an experienced instructor is necessary to make yoga effective, safe, and desirable to the members of the organization.

Because the research also substantiates the theory that yoga, as a stress-reducing exercise with a meditative component, goes beyond the relief of symptoms and allows for greater attention to mental and physical health, it is the researcher's recommendation that professional managers incorporate yoga into an organizational strategy: yoga should not be reduced to merely yoga poses and exercises. It is unclear to what degree the meditative component of the practice aids in the healing of its practitioners.

Also, an essential component of what was studied here was the collective experience of practicing yoga in a work environment. The study suggested that part of the impact yoga had was that it was a collective experience and that this communal facet also factored into helping reduce or mitigate stress. As a result, the recommendation by this researcher is that such a class would be offered to members at all levels of employment.

An increasing number of managers are aware of the importance of workers' mental and physical health and its direct effect on the health of the organization and

therefore on the organization's effectiveness. It is recommended that organizations look into possible programs to manage one of its most important assets—human resources. This study provides one possible approach for management to consider yoga as a tool for effectively managing stress in the workplace. Furthermore, there are some poses that one can practice by oneself after having learned them from an instructor. According to Zeer, these can be easily achieved during work hours (Zeer, 2000). Some basic yoga poses are illustrated in Appendix F.

#### Recommendations for Future Research

This study hopes to establish some credibility for yoga practice as one resource for business practitioners and managers to reduce stress for employees and increase the overall effectiveness of their organization. This study intends to serve as a framework for future studies that continue to investigate how yoga practice impacts individual, organizational, and business-community mental and physical health. This study also hopes to develop further research into yoga's potential benefits for the aging and the ill.

In certain respects, this research substantiated other research. For instance, like Kuslivan's study (2003) the research suggests that there were significant levels of stress in each participant's personal and professional lives, and stress impacted their relationships and health. Also, like Friedman et al. (1958), this study found that although the factors for stress are complex and varied, the organizational health of a business is deeply rooted in the individual members' mental and physical health.

Although this research provided some persuasive information about the impact yoga practice had on individuals' stress levels and the organization's health, there are significant areas for further study. For instance, the study suggested a strong link between

yoga's impact on the individual and the overall health of the organization as a function of the individual members' mental and physical health. More research would be necessary to better understand if and how the overall health of an organization is impacted by yoga. For instance, this study suggests that an organization is positively impacted, but to what degree and how is still largely unanswered (profitability, efficiency, productivity, etc.). Furthermore, this study might provide the groundwork for future research programs on organizational health through mind-and-body exercises, but more research is needed to know to what degree yoga's meditative exercises benefit or detract from the overall impact on the individual. Also, this research did not explore whether compulsory or voluntary yoga classes made a difference in the overall impact on the organization; further research is needed to explore what the impact might be on the different ways in which yoga is offered on site. Lastly, more research needs to be conducted as to what impact yoga has as compared to other forms of physical exercise (Tai Chi, aerobics, etc.) and spiritual exercise (meditation, prayer, etc.).

There are also limiting factors that might be explored by future researchers. For instance, this research was conducted in the Bay area, mainly in the San Francisco area. The research method was participatory and consisted of a small selected sample size of 12 individuals. The researcher hopes to continue research in different geographic areas, with a focused aged group, with a focused practicing group, or in a specific organization.

### Concluding Thoughts

This study stemmed from the researcher's quest to find out how and in what ways an ongoing yoga practice impacts individuals and organizations. Yoga is an ancient practice, and because it seems to have helped people for so many centuries, it was of



great interest to find out more about how this physical, spiritual, or mental practice might provide stress reduction and healing in the modern era. Throughout the entire process—from researching journals, articles, and books on mental health, organizational theories, and management strategies, to the interview process, in which themes were developed from the various perspectives—the researcher discovered more about yoga’s impact and that there is more to learn about yoga and the health of the individual at the workplace.

The popularity of yoga has brought a greater awareness of how a mind–body practice can benefit the individual, but as a form of preventative care to employers and employees alike, more needs to be known. Yoga is a promising form of preventative care that strongly suggests it can help diminish stress for employees. This study suggests that employers might benefit from yoga practice so its members can gain a stronger sense of belonging to and contributing to a more effective organization. However, there are many unanswered questions that remain. For instance, one person who was interviewed showed concern about the possible negative effects of yoga and more needs to be understood about the potential for yoga to negatively impact practitioners. This could be true both physically—in injuries or damage done to people who are ignorant of the risks—and psychologically—in the potential for self-awareness to breed self-importance or self-involvement.

One of the many questions that remain open about yoga is the difference between short-term and long-term impact. Do certain people benefit from yoga on a short-term basis only? Are the long-term impacts the more “important” benefits? What are the differences between long- and short-term benefits? Other questions include Do certain organizations benefit from yoga while others do not? Does the nature of the organization

factor into the effectiveness of the practice? What about cultural bias and yoga? For instance, yoga might be seen as detracting from (or even being heretical to) the spirituality of particular religions, or yoga might be offensive to those who are not religious because of yoga's spiritual origins.

Despite the new questions that this study has raised, this study has some convincing findings. The study suggests that yoga as a relaxation technique is highly effective for all the participants interviewed. That yoga attempts to address the physical, psychological, and spiritual dimensions of human experience also is part of how effective it is in impacting different types of people. This research has strongly suggested that yoga's relaxation techniques help reduce stress, manage a high-stress working environment, and build confidence and strength, as well contribute to the productivity, focus, and overall health of employees. One of the discoveries during this project has been that although none of the participants believed that yoga eliminated stress; all believed that it did help manage stress.

The research is greatly indebted to the honesty and courage of each participant who took time and energy to share thoughts, ideas, reflections, and feelings about their personal experience with yoga at the workplace. The interview process and the extensive readings on physical and mental health (for individuals as well as groups) brought to light both the possibilities of yoga as a potentially humanizing force at work as well as how much more there is to be learned about the nature of health and yoga.

Finally, the researcher would like to share her thoughts after conducting this study and having had the opportunity to consider the important consequences of the findings in this dissertation:

Before this research, I knew that breathing was important but it was not until I did this study that I saw how much of an impact yoga breathing had on everyday stress. Even though I've been practicing yoga for years, it was not until I really learned from the participants that I began to realize how important the seemingly simple breathing techniques are for mental and physical health. By paying attention to how one breathes, yoga can have a huge impact on a greater awareness of what is happening internally (both literally and metaphorically). I believe that this focus on the internal life is what makes yoga allow individuals to take responsibility for their life through self-awareness.

Although yoga is not primarily a physical exercise, its physical rewards are great. However, one of the concerns with yoga practice is that there can be a pressure for its practitioners to push themselves to do certain poses in order to win the approval of others. This highlights the importance of a clear-minded instructor who views yoga as a practice that each individual with individual strengths and limitations enters freely and asks of it what they need. Yoga is a humbling experience, and it should be. If it is practiced with humility and mindfulness, it allows individuals to confront their limitations as well as their strengths on their own terms. What stands between an individual and an enlivening yoga practice is one's ego. If the participant is not guided by an experienced teacher, one can easily hurt the body and ultimately the psyche.

One of the issues of the ancient discipline of yoga now practiced in the modern context is that there is a clash of ideals. Contemporary society puts pressure on us to look and act a certain way and yoga could be misused by individuals to achieve these cultural ideals. Yoga can be used to further personal egotistical goals. This I believe is a concern when yoga is reduced to being merely a physical exercise, and no attention is paid to the

psychological and spiritual side of the teaching of yoga. There is a concern, therefore, of participants being injured physically and misguided mentally.

Finally, the researcher believes that yoga will lead one to learn how to love and care for oneself and then for others. To speak and act with truth, honesty, and selflessness (Feuerstein, 1998) is an invaluable concept that can change the lives of those who pursue the wellness of mind and body. Yoga can affect members of an organization, members of a family, and members of the world. This concept speaks of a hope for creating a healthier workplace. After all, is not the mind and body the workplace of the soul?

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APPENDIXES

## APPENDIX A

## SAMPLE INTRODUCTORY LETTER TO PARTICIPANTS

\_\_\_\_\_Date

\_\_\_\_\_Name

\_\_\_\_\_Address

Dear \_\_\_\_\_:

My name is Tina Hall and I am a graduate student in the College of Education at the University of San Francisco.

I am conducting a study on the physical and psychological impact of yoga practice in the workplace as part of my doctoral studies in the School of Education at the University of San Francisco. The goal of this research is to study how and in what ways yoga mitigates stress, impacts productivity, effects the overall morale on an organization.

Stress is a common enemy of employers and employees alike and this dissertation is aimed at assessing the physical and psychological benefits of yoga practice in the workplace both for the individual workers and as yoga practice might positively effect the organization overall.

You are being asked to participate in this research study because you are a yoga practitioner who participates in yoga at your place of work and who has been practicing yoga continuously for over two years. If you agree to be in this study, I (or a research assistant) will participate in an interview with you. All study records will be kept confidential.

This study is also an opportunity for you to make an impact on the changing attitudes towards the climate of the work atmosphere since an important goal of this dissertation is to attempt to find new ways of thinking about how businesses might find ways to combat stress. It is an opportunity for you to honestly appraise the effectiveness of yoga as one way in which such changes in attitude about stress might begin to change. Please take your time to complete the study in full. All answers are and will remain confidential.

It is possible that some of the interview questions may make you feel uncomfortable, but you are free to decline to answer any questions you do not wish to answer, or to stop participation at any time.

Participation in research may mean a loss of confidentiality. Study records will be kept as confidential as is possible. No individual identities will be used in any reports or publications resulting from the study. Study information will be coded and kept in locked files at all times. Only study personnel will have access to the files. Individual results will not be shared with personnel of your company.

While there will be no direct benefit to you from participating in this study, the anticipated benefit of this study is a better understanding of the effect of yoga on the individual and on the workplace as a whole.

There will be no costs to you as a result of taking part in this study, but you will be reimbursed for your participation in this study for one hundred dollars (\$100).

If you agree to be a part of this study, an interview will be set up with you. The interview will be recorded and transcribed. Only study personnel will have access to the transcribed interview.

If you have questions about the research, you may contact me at (415) 564-5183. If you have further questions about the study, you may contact the IRBPHS at the University of San Francisco, which is concerned with protection of Volunteers in research projects. You may reach the IRBPH office by calling (415) 422-6091 and leaving a voicemail message, by e-mailing [IRBPHS@usfca.edu](mailto:IRBPHS@usfca.edu), or by writing to the IRBPHS, Department of Counseling Psychology, Education Bldg., University of San Francisco, 2130 Fulton Street, San Francisco, CA 94117-1080.

**PARTICIPATION IN RESEARCH IS VOLUNTARY.** You are free to decline to be in this study, or to withdraw from it at any point.

Thank you for your attention. If you agree to participate, please complete the attached questionnaire and return it to me in the enclosed pre-addressed, pre-stamped envelope.

Sincerely,

Tina Hall  
Graduate Student  
University of San Francisco

## APPENDIX B

APPROVAL FROM THE INSTITUTIONAL REVIEW BOARD FOR THE  
PROTECTION OF HUMAN SUBJECTS

March 19, 2009

Dear Ms. Hall:

The Institutional Review Board for the Protection of Human Subjects (IRBPHS) at the University of San Francisco (USF) has reviewed your request for human subjects approval regarding your study.

Your application has been approved by the committee (IRBPHS #09-014). Please note the following:

1. Approval expires twelve (12) months from the dated noted above. At that time, if you are still in collecting data from human subjects, you must file a renewal application.
2. Any modifications to the research protocol or changes in instrumentation (including wording of items) must be communicated to the IRBPHS. Re-submission of an application may be required at that time.
3. Any adverse reactions or complications on the part of participants must be reported (in writing) to the IRBPHS within ten (10) working days.

If you have any questions, please contact the IRBPHS at (415) 422-6091.

On behalf of the IRBPHS committee, I wish you much success in your research.

## APPENDIX C

## PARTICIPANT DEMOGRAPHIC QUESTIONS

1. How many years have you been practicing yoga?

\_\_\_\_\_ 0–1

\_\_\_\_\_ 2–3

\_\_\_\_\_ 4–5

\_\_\_\_\_ 6+

2. On average, how many times do you practice yoga per month?

\_\_\_\_\_ 1–4

\_\_\_\_\_ 5–8

\_\_\_\_\_ 9–12

\_\_\_\_\_ 13–16

\_\_\_\_\_ 16+

3. What is your position at work?

\_\_\_\_\_ entry level

\_\_\_\_\_ middle management

\_\_\_\_\_ supervisor

4. Gender

\_\_\_\_\_ Male

\_\_\_\_\_ Female

5. Age

\_\_\_\_\_ 18–25

\_\_\_\_\_ 26–33

\_\_\_\_ 33–40

\_\_\_\_ 41–48

\_\_\_\_ 49–56

\_\_\_\_ 57–64

\_\_\_\_ 64–71

\_\_\_\_ 71+



APPENDIX D  
SAMPLE INFORMED CONSENT FORM  
UNIVERSITY OF SAN FRANCISCO  
CONSENT TO BE A RESEARCH SUBJECT

Purpose and Background

Ms. Tina Hall, a graduate student in the School of Education at the University of San Francisco is doing a study on the physical and psychological impact of yoga practice in the workplace. The goal of this research is to study how and in what ways yoga mitigates stress, impacts productivity, effects the overall morale on an organization. Stress is a common enemy of employers and employees alike and the researcher is interested at assessing the physical and psychological benefits of yoga practice in the workplace both for the individual workers and as to how a yoga practice might positively effect the organization overall.

I am being asked to participate in this research study because I am a yoga practitioner who has attended a yoga practice at my place of work and has been practicing yoga continuously for over two years.

Procedures

If I agree to be a participant in this study, the following will happen:

1. I will complete a short questionnaire giving basic information about me, including age, gender, race, religion, and job history.
2. I will participate in an interview with a research assistant, during which I will be asked about my experience with yoga, experiences at the workplace and thoughts on how yoga impacts the organizational health of my work.
3. I will complete the questionnaire and participate in the interview at \_\_\_\_\_, San Francisco, California.

Risks and/or Discomforts

1. It is possible that some of the questions on the questionnaire may make me feel uncomfortable especially as they pertain one's body image, job satisfaction and overall mental health, but I am free to decline to answer any questions I do not wish to answer or to stop participation at any time.
2. Participation in research may mean a loss of confidentiality. All interviews will be taped and transcribed and study records will be kept as confidential as is possible. No individual identities will be used in any reports or publications resulting from the study. Study information will be coded and kept in locked files at all times. Only study personnel will have access to the files.
3. Because the time required for my participation may be up to 2 hours, I may become tired or bored.

### Benefits

There will be no direct benefit to me from participating in this study. The anticipated benefit of this study is to make an impact on the changing attitudes towards the climate of the work atmosphere and to find support for new ways of thinking about how businesses might find ways to combat stress.

### Costs/Financial Considerations

There will be no financial costs to me as a result of taking part in this study.

### Payment/Reimbursement

I will be reimbursed \$100.00 for my participation in this study. I will be paid in cash immediately after I have completed the questionnaire, survey, and interview. If I decide to withdraw from the study before I have completed participating or the researchers decide to terminate my study participation, I will still receive full reimbursement.

### Questions

I have talked to Ms. Hall or her research assistant about this study and have had my questions answered. If I have further questions about the study, I may call her at (415)564-5183.

If I have any questions or comments about participation in this study, I should first talk with the researchers. If for some reason I do not wish to do this, I may contact the IRBPHS, which is concerned with protection of volunteers in research projects. I may reach the IRBPHS office by calling (415) 422-6091 and leaving a voicemail message, by e-mailing IRBPHS@usfca.edu, or by writing to the IRBPHS, Department of Psychology, University of San Francisco, 2130 Fulton Street, San Francisco, CA 94117-1080.

Consent

I have been given a copy of the “Research Subject’s Bill of Rights” and I have been given a copy of this consent form to keep.

PARTICIPATION IN RESEARCH IS VOLUNTARY. I am free to decline to be in this study, or to withdraw from it at any point. My decision as to whether or not to participate in this study will have no influence on my present or future status as a student or employee at USF.

My signature below indicates that I agree to participate in this study.

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Subject’s Signature Date of Signature

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Signature of Person Obtaining Consent Date of Signature

## APPENDIX E

## RELEASE FORM FOR TAPES AND TRANSCRIPTS

I agree to have my dialogues with Tina Hall audio taped and transcribed into written form. I realize that it is the responsibility of both Tina Hall and myself to ensure the accuracy of these transcriptions

I am also aware that the original audio tapes and transcripts will be kept safe and secure in the office of Tina Hall, Hall, Yee & Associates at 1156 Clement Street, San Francisco, CA. 94118 for period of one year, after which they will be destroyed. The transcribed copies I receive will be destroyed or not at my discretion.

Subject Signature \_\_\_\_\_ Date \_\_\_\_\_

Signature of Person Obtaining Consent \_\_\_\_\_ Date \_\_\_\_\_

APPENDIX F  
YOGA POSES (ASANAS)



From "Yoga Standing Poses, ASHE, 2000", retrieved August 21, 2009, from <http://www.humanecology.com.au/Images/asana>