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PRESENTEEISM:
A COMPARATIVE ANALYSIS

A Thesis Presented

by

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ABSTRACT

PRESENTEEISM: A COMPARATIVE ANALYSIS

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Presenteeism is the state of being physically present but less than fully functional because of illness or other distraction. Health and Productivity Management (HPM) professionals and academics seek to quantify losses attributable to this phenomenon. The Stanford SPS-6 is selected as the most useful instrument to test for the characteristic of presenteeism as intrinsic capacity for performing while distracted. This study tested graduate students from a variety of curricula, as examples of career choice, to determine whether some groups would have greater capacity to perform while under distraction.

Results of the study showed differences in presenteeism scores between groups. Males scored higher than females, and more work experience may bring greater capacity. Evidence of a relationship between severity and score was found for those with psycho-emotional distractors, but not when the source was physical. So, for those reporting psycho-emotional sources of distraction, severity was a predictor. Similarly, correlations were found such that an increase in self-perceived severity could be associated with a reduction in capacity to perform when the source of distraction was psycho-emotional. It is possible that presenteeism can be quantifiable and associated with career-choice. This may be useful for hospitality and other industries as a test for suitable workers.

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CHAPTER 1

INTRODUCTION

Hospitality management will face a shortage of reliable labor in the 21st century (Loh & Hendrie, 2006). Attracting and retaining the right person for the right job will become increasingly important; practices established will affect future performance in the hospitality workplace. The Health and Productivity Management field has developed tests to quantify productivity losses attributable to absenteeism and presenteeism. The Stanford SPS-6 measures an individual's ability to perform at normal levels while in a state of distraction (Koopman et al., 2002). This capacity, identified as 'attribute presenteeism,' is a valuable quality in the hospitality workplace (Loh & Hendrie, 2006).

This thesis focuses on an important issue for leadership in the hospitality industry by providing a quantitative comparison of attribute presenteeism among graduate students in a variety of curricula at the University of Massachusetts in Amherst, Massachusetts. It also investigates possible differences in the characteristic between genders and between individuals with different lengths and levels of work experience, and possible differences between those reporting physical or psycho-emotional factors.

This chapter provides an introduction to the study, presented in four sections. The background of the issue and the study 'problem,' and the purpose and significance of the project are discussed in the first section. The nature of the study is explained in the second section, as are the hypotheses and research questions. The third section describes the study's theoretical framework, and important definitions are offered as well. The fourth section identifies and discusses assumptions of the study and explains the scope, limitations, and delimitations. Finally, a summary of the chapter's key points is offered.

Background of the Problem

Productivity Loss

As early as the 1950s, researchers sought to quantify losses in productivity resulting from presenteeism, the condition of being “here but not all there” (Canfield & Soash, 1955). Further defined later, presenteeism becomes an issue when one attempts to perform work at normal levels, or as if in a normal state, while actually sick or distracted. The concept of presenteeism became more well-known during the latter years of the twentieth century, as the word came into more common use to describe personnel who performed at less than fully-functional levels. In the first decade of this century, a great deal of work is being done (as discussed and referenced throughout this dissertation) to estimate actual costs of productivity loss associated with presenteeism (Burton, Conti, Chen, Schultz & Edington, 1999; Collins et al., 2005; Goetzel, Hawkins, Ozminkowski & Wang, 2003; Kessler et al., 2006; Koopman et al., 2002; Lynch & Reidel, 2001).

Presenteeism places an economic burden on employers. Goetzel et al. (2004) suggested that the costs of presenteeism exceed direct medical costs and that depression and other mental illnesses are among the highest contributors to the condition. Goetzel, Hawkins, Ozminkowski, and Wang (2003) established that productivity-related losses were higher for mental health conditions than for physical. Ozminkowski, Goetzel, Chang and Long (2003) found presenteeism costs ranging from \$2,000 to \$2,800 per employee per year; and Burton, Chen, Conti, Schultz, and Edington (2006) found similar results as well as a new estimate for 2004 of between \$1,392 and \$2,592.

Some estimates for the entire adult population of the U.S. have gone as high as 50 billion dollars, according to Goldman and Drake (citing Kessler et al., 2006).

Research reported in the Harvard Business Review suggests that “U.S. companies may lose \$150 billion (yes, that’s billion) annually because of presenteeism” (Hemp, 2004).

Shrinking Labor Pool

The hospitality industry can expect a shortfall of 10 million workers in the U.S. by 2010, and connections can be made between the hospitality industry and colleagues in Health Care and others in the semi- and non-skilled arenas, as all compete for reliable labor from a “dwindling labor pool” (Loh & Hendrie, 2006). Concerns include 100% turnover, aging population, and lack of training and development in hospitality.

Other research lists similar conditions as exacerbating the situation since 2000, when the United States had experienced an extended period of economic growth, full employment, and low inflation (O’Donnell, 2000). In order to combat the high inflation that would normally follow from these conditions, industry executives tried to increase productivity (Stevens, 2004). The need for competitive advantage in the increasingly global marketplace has also been mentioned, as U.S. labor costs are among the highest in the world and foreign businesses outperform America in quality (Manpower Inc., 2007).

Health & Productivity Management

The issue of productivity as a function of workplace health is the concern of an area of research that, as Miller and Kelman (1992) observed, has emerged out of healthcare and labor studies, specifically that of Health and Productivity Management (HPM). According to the views of HPM proponents, human capital is an investment that can be managed efficiently, rather than an expense to be avoided (OnSite Healthcare, 2000). Some economists propose that improvements in the health of the nation’s

population will have a substantial effect on its economic viability; evidence supports the notion that health improvements stimulate economic development (McCunney, 2001).

Since convening the HPM Consortium Benchmarking Meeting in Washington, D.C. early in 2000, American industry has begun to engage in a “paradigm shift” in its approach to human resources and health care benefits (Sullivan, 2005). Initiating Health and Productivity Management programs aimed to enhance employee morale, reduce turnover, and increase on-the-job productivity, some corporations have set the stage for new values and beliefs to be adopted (Goetzel, Ozminkowski, Sederer & Mark, 2002).

While the hospitality industry traditionally trails behind other industries in embracing new, worker-oriented approaches (Loh & Hendrie, 2006), one small measure might be of use to professionals. If it were found that some individuals possessed a greater propensity for multi-tasking, these workers and managers could be placed in appropriate job-roles. Conversely, individuals found to have a lesser score on a test for presenteeism could be encouraged to consider a more appropriate career choice or seek assistance in the form of counseling or job-coaching. The contribution of this study could be the development of a test for attribute presenteeism, which might be a valuable contribution to the hospitality industry.

Problem Statement

Productivity loss attributable to presenteeism exceeds that of absenteeism, yet it is harder to identify and quantify (Burton, Conti, Chen, Schultz & Edington, 1999). Self-reporting measures have been utilized and found to be appropriate and reliable for this phenomenon (Kessler et al., 2003). The Stanford SPS-6 is particularly attuned to gauging an individual’s capacity for attribute presenteeism (Koopman et al., 2001);

the Stanford instruments are the only ones (Lynch & Reidel, 2001) of all available productivity measures to focus strictly on presenteeism (Chapman, 2005), and the SPS-6 is the most concise and appropriate of these (Collins et al., 2005; Turpin et al., 2004).

An instrument that identifies an individual's ability to perform while distracted could be a useful selection device. A brief questionnaire, modeled after the SPS-6 and included as part of the interview process in hiring, might facilitate job-matching. Natural multi-taskers could be placed in more dynamic positions such as are common in the hospitality industry. This revised, modeled instrument might well be a useful contribution in and of itself.

This study administered the SPS-6 to groups of master's students at the University of Massachusetts at Amherst, Massachusetts. These individuals were expected to have had some years of experience in the workforce, and would have made a conscious choice about their career-field. The sample population, while chosen for convenience, was deemed appropriate for this comparative, quantitative study, as it was presumed that master's level graduate students would have both work experience and clarity of intention with regard to their future career-tracks. In fact, a qualifying question established levels of work experience, by categorical intervals, thus satisfying the assumption.

Purpose of the Study

The purpose of this quantitative, correlational study is to ascertain whether differences exist in attribute presenteeism among master's students from different curricula or departments at the University of Massachusetts in Amherst, Massachusetts. This comparative study uses statistical analyses to fulfill this objective.

The design of the study involved a survey including the Stanford SPS-6, administered to master's students from as many departments as would cooperate and could be managed, to determine their capacity to perform while distracted. Like numbers from each department were given the SPS-6 along with a qualifying questionnaire. The independent variable for the presenteeism portion of the survey was categorical according to department or curriculum of study. The dependent variables were the measurements of participants' self-reported presenteeism behaviors. Results were then analyzed using statistical tools to discover any significant differences among the various groups of students with regard to their presenteeism behaviors.

The second portion of the study investigated whether differences in presenteeism behaviors exist among the groups with regard to gender, years of work experience, and hourly or labor versus salaried or management job-role positions, plus physical factors contributing to distraction versus psychological or emotional ones. Gender constituted one categorical independent variable, years of work experience the next, labor or management the third, and nature of distractor the fourth. The six presenteeism behaviors determined by SPS-6 scores made up the dependent variables. These results were examined with statistical techniques to identify any significant differences in SPS-6 scores relative to the independent variables.

Significance of the Study

United States Bureau of Labor statistics indicate a shortfall of 10 million workers in this country by the year 2010 (Manpower Inc., 2007). Therefore, selection and retention will become increasingly important over the next decade, especially to the hospitality industry (Loh & Hendrie, 2006). Hiring the right person for the right job

is fast becoming a matter of competitive advantage in the global marketplace; qualities such as loyalty, resilience and adaptability will, as Loh and Hendrie anticipate, rank along with emotional intelligence and innovation as key to the “hospitality culture” in the workplace of the future. Furthermore, new ideas and practices must be integrated into employers’ routine policies as a matter of best practice (Goetzel, Guindon, Turshen & Ozminkowski, 2001).

The utility of this study to industry is to demonstrate that a selection device can be used to detect an inherent quality, namely presenteeism, which might be valuable to an employer. Having supposed that presenteeism equates with ‘multi-task-ability,’ and that the hospitality industry demands, or certainly can benefit from, securing both workers and managers who display a penchant (or ability, at least) for this quality, the study can contribute to leadership by showing that such an instrument as the Stanford SPS-6 could model an important tool to be used by hospitality employers and others. The instrument can be administered easily and produces useful information, as was demonstrated in the course of this project.

As demands on hospitality employers increase, and the labor pool continues to shrink, it becomes increasingly important to hire well. It is thus imperative to learn new techniques for determining what inherent qualities an individual possesses to make for a successful hospitality career, and to learn ever more about personality and selection.

Nature of the Study

The purpose of this study is to examine possible differences in the attribute of presenteeism among graduate students of various disciplines at the University of Massachusetts in Amherst, Massachusetts. The chosen research methods are

quantitative, as the relationships between a number of variables are of primary interest in this study, and several samples are used (Hildebrand & Ott, 1996). The aim of this study is to analyze data to determine if there are significant differences among presumably differing populations, so qualitative methods would not address these issues.

Gathering numerical data leads to quantitative measures that will utilize statistical procedures. Further, previous work in the Health and Productivity Management arena has been empirical in nature. Experts in the HPM field have been laboring for the last decade or so to bring concrete measurements to a heretofore nebulous concept; the present study has the intention of building upon, adding to, and furthering the emerging body of knowledge attached to the concepts of Health and Productivity and presenteeism, especially within the hospitality industry.

As outlined by Hair, Babin, Money and Samouel (2003), this study was to be a matter of descriptive research. Characteristics of a greater population are inferred from results associated with the available sample population at the University. All of the research questions are clearly defined; this research is not exploratory, and the study does not look for causal relationships in the data.

The study employs a survey-based research design. A convenience sample of University graduate students from various departments were surveyed to reveal their capacity for attribute presenteeism. The survey instrument was the Stanford SPS-6, which consists of six items measuring workers' perceptions of their ability to overcome the distraction of physical and/or psychological problems in order to handle job stress, complete tasks, achieve goals and maintain sufficient focus and energy levels (Pelletier

& Koopman, 2003). The survey uses a five-point Likert scale on which the respondent indicates the degree to which he or she agrees or disagrees with the statements.

The SPS-6 aims to address cognitive, emotional and behavioral aspects of concentration, encompassing both processes and outcomes of work, and it uses a balance of positively- and negatively- worded questions in a “practical and concise tool with excellent psychometric properties,” according to Koopman et al (2002). A high SPS-6 score indicates a high level of presenteeism, or a greater ability to concentrate on and accomplish work despite health problems, thus the concept is defined as attribute.

The survey was originally to be administered either on-line, by invitation extended to potential participants as ‘fellows in kind,’ or in-person by hand delivery to classroom sessions. In fact, the latter method was the only one of these to be used. A brief pilot study was conducted at the start of the actual test, so as to ensure ease of use and clarity of the instrument. The independent variable for the major part of the study was the participants’ academic department; the dependent variables were the six dimensions of presenteeism as measured by the SPS-6. Results were analyzed to discover any significant differences in presenteeism behaviors among the various groups. Data about gender, work experience, and job-role, as well as the nature of the distractor, were also analyzed to determine if differences existed in self-reported presenteeism behaviors related to these variables.

The fixed questionnaire design of the instrument ensured that the test was the same for all participants, administered similarly to all, with replicable results for future use by other researchers. The quantitative data resulting from the survey was appropriate for this comparative study. The SPS-6 has been developed, tested and refined, as well as

validated, in previous studies, discussed in Chapter Three (Collins et al., 2000; Koopman et al., 2002; Pelletier & Koopman, 2003; Turpin et al., 2004), and has been established as singularly appropriate for the study of presenteeism, especially as a concept separate from absenteeism (Koopman et al., 2002; Lynch & Reidel, 2001).

The use of an on-line device would provide the advantage of convenience for the respondents, but this approach might not elicit the maximum response rate. In-person, hand-delivery seemed, at the time of writing and after, to be the most attractive alternative for administering the instrument. The researcher, having first secured the cooperation of professors, approached master's students in the classroom setting, asking them to fill out the survey right away.

Hypotheses / Research Questions

This study addresses these two main research questions:

1. Do significant differences exist in presenteeism behaviors between master's students of various curricula at the University of Massachusetts – Amherst?
2. Do significant differences exist in presenteeism behaviors between (a) male and female master's students; (b) students with different lengths of work experience; (c) students with different levels of work experience (labor vs. management); and (d) those with different distractions (mainly physical vs. psycho-emotional or behavioral)?

To achieve these ends, the study considers the following hypotheses:

Research Question #1 – Curriculum Groups

Ho #1: No statistically significant differences exist between groups of master's students of various curricula in their self-reported presenteeism behaviors as measured by SPS-6.

HA #1: At least one statistically significant difference exists between groups of students of various curricula in their self-reported presenteeism behaviors as measured by SPS-6.

The rationale for this hypothesis and its alternative is to examine whether there is statistical validity to the supposition that hospitality students (or other groups) are more able to work under distraction than those who choose other careers or fields of study. It has already been observed that those in the medical professions - especially nurses (Aaronsson, 2000; Pilette, 2005), but doctors as well (Wrate, 1999) - have both the need and the ability to maintain normal functionality while preoccupied or distracted.

Research Question #2 - Gender

Ho #2: No statistically significant difference exists between males and females in their self-reported presenteeism behaviors as measured by the SPS-6 presenteeism scale.

HA #2: A statistically significant difference exists between males and females in their self-reported presenteeism behaviors as measured by the SPS-6 presenteeism scale.

The rationale for this hypothesis and its alternative is to examine whether there is a significant difference in presenteeism between genders across all surveyed groups of graduate students. The discovery of such a difference could have implications for human resource practices, specifically selection and training in Hospitality and other industries.

Research Question #2 – Length of Work Experience

Ho #3: No significant differences exist between students with different lengths of work experience in their self-reported presenteeism behaviors as measured by SPS-6.

HA #3: At least one significant difference exists between students with different lengths of work experience in their self-reported presenteeism behaviors as measured by SPS-6.

This hypothesis and its alternative examine the question of whether greater capacity for attribute presenteeism might be learned or increased over time and with more experience; at least one researcher has suggested that the ability to cope with distraction can be a learned behavior that could be cultivated by HR practices (Chapman, 2005).

Research Question #2 – Levels of Work Experience

Ho #4: No significant differences exist between students with different levels of work experience in their self-reported presenteeism behaviors as measured by SPS-6.

HA #4: At least one significant difference exists between students with different levels of work experience in their self-reported presenteeism behaviors as measured by SPS-6.

The reason to examine this hypothesis and the alternative is simply to ascertain whether a difference manifests between students whose work experience has been at the level of laborer (i.e. ‘hourly worker’) or that of manager (i.e. ‘salaried’). In the case of a supervisory job-role, the terms ‘hourly’ or ‘salaried’ will be used to make the distinction. It might be supposed that higher-level (i.e. managerial) employees in the contemporary, knowledge-based workforce would possess either a greater need or a higher propensity for the quality of presenteeism, or the opposite could be true.

Research Question #2 – Nature of Distractor

Ho #5: No significant differences exist in presenteeism behaviors between students with physical illnesses and those with psycho-emotional distractors, as measured by SPS-6.

HA #5: A significant difference exists in presenteeism behaviors between students with physical illnesses and those with psycho-emotional distractors, as measured by SPS-6.

Many researchers have previously established that psychological, emotional and behavioral conditions are greater contributors to distraction and reduced productivity than

are physical ailments (Pilette, 2005). However, these discoveries have thus far been incidental to the consideration of other issues. The rationale for this hypothesis and its alternative is two-fold: first, to address the question specifically, as a matter worthy of research in and of itself; and second, to contribute to the ongoing body of research by demonstrating that this can become an area for further research and attention. It might be supposed that psychological and behavioral issues would be of special concern for some industries or career tracks, especially those in which alcoholism, substance abuse, or family issues are prevalent. Depression is a major distractor, for example, as was unexpectedly discovered by the creators of the SPS-6 (Pelletier & Koopman, 2003).

Whether such matters as depression or behavioral issues might be of particular concern to the hospitality industry is a question that lies outside the scope of the current study, and so is left for others to consider as a subject for further research. Likewise, the question of whether hospitality students will score higher on the Presenteeism Scale may be of concern to the researcher, but the matter of whether *any* groups will score higher is the more important issue from the standpoint of bona fide research.

Theoretical Framework

The germinal work for the concept of presenteeism began in the 1950's when researchers began to seek causes for absenteeism beyond such obvious explanations as illness- nature of work and management-centered issues were chief among these; Covner (1950) established "good evidence that absenteeism is not a lawless phenomenon but occurs with sufficient consistency of pattern to make it readily amenable to research."

Canfield and Soash (1955) and Uris (1955) began to use the word in their efforts to direct attention away from just absenteeism and toward its ‘flip-side’ as a management issue and an explanation for productivity loss.

One important standard to be considered is the human capital paradigm. As Miller and Kellman (1992) stated, “people have personal characteristics, assets, and skills for hire. The productivity of these characteristics and assets is impaired... Competitive forces cause the value of the impaired productivity to be reflected... The value of output not produced is approximated...” While the output measured in the Miller and Kellman study was in terms of personal earnings or income lost, the idea of human capital as a matter worthy of investment by employers remains a pertinent principle. Subsequent HPM studies measure losses in terms of dollars lost to employer-firms or industries, in what Lerner et al. (2001) call an effort to “facilitate economic assessment of work loss.”

Evans (2004) indicated that in the 1960s, research viewed productivity in terms of the overall burden and cost of a disease. Cost-of-illness studies incorporated three elements: direct costs (costs that must be paid by the health care system), indirect costs (costs of lost production as a result of declines in productivity and/or increases in work absence), and intangible costs (pain, suffering or a reduction in quality of life). When these cost-of-illness studies fell out of favor, studies in productivity and health shifted their focus to treatment’s effects on productivity. This increased interest in measuring productivity in concrete terms and measuring the presenteeism component in particular has motivated the development of new techniques to capture this data .

Researchers in the field of psychiatry such as Lerner et al. (2004) found that many individuals with depression did not receive adequate diagnosis and treatment. Moreover,

the available interventions that might help employees to function better at work were not geared toward this population. Employment programs for adults with mental disorders provided job entry services mainly for persons with severe and chronic mental illness. Job accommodations were generally aimed at individuals who meet criteria for disability. Employee assistance programs, when available, usually intervened when the employee had a severe job performance problem. Their data suggested that there was a need for programs- in addition to quality medical care- to help employees with depression cope with the substantial job upheaval that many experience. Their study was not limited to those incapacitated by their condition; included were those with dysthymia (low-level depression) and others who were actively engaged in work and those who had no immediate plans to stop working.

This study embraces the concept of presenteeism as attribute, as suggested by Koopman et al. (2002) and Pelletier & Koopman (2003), and utilizes the practice of empirical testing as maintained by bona fide researchers such as those in the Health and Productivity Management field. Since 2000, McCunney, Lerner, Goetzel and many colleagues, as well as Aaronsson in Switzerland, Yamashita in Japan, and Dew in New Zealand, and others (see Chapter 2) have established an overarching paradigm of rigid and robust empirical methodology.

Definitions

Presenteeism: The condition of being physically present but performing at a reduced capacity because of distractions attributable to physical or mental illness or other factors. [The existing ‘industry standard’ associates the term negatively with productivity loss.]

Attribute Presenteeism: The capacity for performing while distracted by physical illness or other factors, as an inherent quality or positive attribute, indicated by the Stanford team to be quantifiable and testable (Koopman et al., 2002, Pelletier & Koopman, 2003).

Human Capital: Published definitions focus on three elements: the skill set (capabilities and experience the person brings to the work); individual motivation (personal initiative a person brings to the job); and an individual's health and vitality (Lynch & Riedel, 2003).

Human Capital Approach: HCA estimates lost productivity by calculating expected earnings lost via a disorder. It is therefore a function of wage. With the HCA, one hour of lost productivity is valued as one hour of an individual's wage- "however, wage may not be a true measure of total lost productivity" (Lofland, Locklear & Fricke, 2001).

Health and Productivity: The relationship between employee health factors: health risks, diseases, symptoms, and the impact of such on productivity (Lynch & Reidel, 2003).

Health and Productivity Management: Worksite-based initiatives that include health promotion and related efforts such as employee assistance programs to address various issues such as substance use, behavioral health, or any other work-related emotional problems (Goetzel, Shechter, Ozminkowski, Marmet, Tabrizi, Roemer, 2007).

Depression: The American Psychiatric Association identifies three forms of depression:

- *Major depression* interferes with work, sleep, eating and enjoying pleasurable activities.
- *Dysthymia* is less severe, with chronic symptoms that interfere with sleep and work.
- *Bipolar disorder* is less prevalent, with cyclical mood swings (Sullivan, 2005).

Psychometric: Reliability and validity (as well as responsiveness) of a survey-based test instrument such as the Stanford SPS-6 (Prasad, Wahlqvist, Shikar & Shih 2004).

Assumptions

“Those who are ‘working wounded’ are understood to be less effective than workers in good health” (Burton, Conti, Chen, Schultz and Edington, 1999). This common-sense statement represents an underlying principle that is fundamental to the present study. It is a forgone assumption that individuals who are ‘here but not all there’ will perform at less-than-full capacity; what is in question is the level of capacity.

The research assumes that the sample population, while chosen mainly for the researcher’s convenience, will provide a reasonable representation of the population-at-large. It is assumed that graduate students at the master’s level of study will have had some years of work experience, are still career-minded in a business context (as opposed to the academic orientation of a doctoral student), and have made a conscious choice of curriculum as representative of a career choice (as opposed to undergraduate students, who may not have ‘chosen’ their curriculum per se- and who may not have had jobs.)

This study also assumes honesty and accuracy on the parts of respondents. No further verification of information was undertaken in the study. As anonymity was guaranteed, and especially considering that participants would simply have no reason to be other than honest, this seemed a reasonable assumption. Furthermore, this assumption extends not only to the reporting of all demographic information, but also to the self-reporting of presenteeism behaviors measured by the Stanford SPS-6 Presenteeism Scale. Further discussion of the self-reporting issue appears in the next section of this chapter.

Scope of the Study, Limitations and Delimitations

The scope of this study was to examine and compare presenteeism behaviors among master’s students of various curricula by collecting self-assessments of graduate

students who are members of these various populations; these sample populations are understood to represent the greater population of working adults who might make corresponding or similar career choices. These individuals were all members of the academic community at the University of Massachusetts at Amherst. The survey instrument used in collecting the data was the Stanford SPS-6 Presenteeism Scale. The SPS-6 is a self-assessment device consisting of six questions representing six dimensions of presenteeism, a concept defined as capacity to perform while distracted.

The primary delimitation of this study is the sample population. Master's level students are the population of interest in this study as a matter of convenience. This group is easily accessed at the University of Massachusetts. It is assumed that this group will be older than the undergraduate population, will have had some actual work experience, and will have selected their department of curriculum by way of conscious choice and (hopefully) clarity of intention. Underclassmen might be at the University on a long, 'lost weekend' and might have fallen into their curricula arbitrarily, and many are likely to have had little or no work experience. Conversely, Doctoral students might represent too wide a 'spread,' with too many in number, to be practicable for this study; and they might be 'too busy to bother' with the survey. It is expected that master's students from a variety of curricula will provide an adequate and workable population, with manageable numbers for this project. So, generalizability of results may be limited. However, the results might provide useful insights for conducting further research.

The main limitation of the study is the self-reporting of presenteeism behaviors among the test subjects. It is a reasonable objection that self-perception may not always be accurate. However, after much repeated and peer-reviewed research in the field of

Health and Productivity Management, it has long been found that self-reporting measures are reliable and accurate (Druss, Schlesinger & Allen, 2001; Lerner, 2000). Having first established that data on presenteeism is much more difficult to obtain than the concrete and objective, factual reporting of absenteeism data, HPM researchers and academics turned to self-reporting measures out of necessity (Evans, 2004).

Goetzel, Ozminkowski and Long (2003) offered a set of parameters for overcoming the limitations associated with self-report measures. Among other qualifiers satisfied by the SPS-6, they suggested that the instrument should be brief and easy to understand, the respondents should provide exact answers to questions with continuous variables, and questions should have clear, exhaustive, mutually exclusive response options; also, the self-reported responses should be verifiable with objective measures.

In a previous incarnation of the Stanford SPS-6, the Stanford/American Health Association Presenteeism Scale (SAHAPS) passed similar tests as prescribed by Lynch and Riedel in their seminal work, *Measuring Employee Productivity: A guide to self-assessment tools* (2001), known as ‘The Gold Book’ and long referenced as the industry standard. Reliability and validity for the SPS test was established in 2004 by Turpin et al. Among their findings was that the SPS performed similarly to other, well-established measures. Also, the Stanford Presenteesim Scale was used alongside other tests in 2002 by the Dow Chemical Company (Collins et al., 2005). Further discussion of the reliability and validity of the instrument follows in Chapter Three of this report.

Summary

This study provides an introduction to the research on the subject of presenteeism. It is asserted that researchers and hospitality professionals, supported by Labor Bureau statistics, are increasingly alarmed by the projected and imminent “shortfall of labor” (O’Donnell, 2000; Loh & Hendrie, 2006). Selection and retention will become ever more important components in the hiring process, and a device that would facilitate the engagement of appropriate personnel for employment in the Hospitality Industry might prove to be well-nigh invaluable.

The Stanford SPS-6 Presenteeism Scale is the instrument of choice for this research. A survey comprising the SPS-6 was used to collect data from master’s students in each of as many departments as was possible at the University of Massachusetts in Amherst, Massachusetts. The study examines the self-perceived presenteeism behaviors of this sample population to ascertain whether differences exist, and it compares these behaviors between respondents of different genders, lengths and levels of work experience, and nature of health-related issue, physical or mental/emotional.

The next chapter will review the literature most relevant to this study. Using a fairly chronological approach, a history of the concept of presenteeism will emerge, with some discussion of a number of research instruments leading up to the creation of SPS-6.

CHAPTER 2

LITERATURE REVIEW

Four themes emerge from a review of the relevant literature on the matter of presenteeism, in the subject area of Health and Productivity Management. First, a discussion of the definition for the word ‘presenteeism’ is offered, with a narrative timeline drawn from the literature. Next, an overview of cost estimates for productivity losses associated with presenteeism is presented, as has been established in professional research. Then the chapter will put forth a brief analysis of an area that has emerged as a leading contributor to presenteeism, namely that of depression. Finally, a discussion of the possible utility of the Stanford SPS-6 or another such test as a screening device in the staffing cycle (i.e. during interviewing/hiring) will be proffered. Table 2.1 provides a summary of research in these four subject areas.

Definition and Discussion

The earliest recorded use of the term ‘presenteeism’ appears to be in the middle 1950s, when Uris (1955) wrote about building presenteeism, and Canfield and Soash (1955) discussed working toward presenteeism rather than away from absenteeism. These uses of the new word suggest a positive attribute, as presenteeism is ‘about showing up’ (in modern vernacular) as opposed to the negative behavior of being absent.

Any discussion of the concept of presenteeism must begin with some mention of absenteeism. At this early stage, absenteeism was the focus of studies by the Harvard Business Review, as Covner (1950), building on the earlier work of Fox and Scott (1943) and Mayo and Lombard (1944), provided the germinal research for both Uris in

New York and Canfield and Soash in Los Angeles. Covner (1950) established that absenteeism was a viable and reasonable area for research, as it was apt to happen with “consistency of pattern.” Also, taking a positive perspective, Covner stated that results of his study indicated trends toward good attendance behaviors.

Research in the 1950s was beginning to address what Uris (1955) called “emotional conditions” or feelings among employees and between supervisory or management levels. These authors all agreed that causes for absenteeism were not just physical illness and the like. Following a suggestion from the 1950 Covner article, Uris (1955) recommended treating absenteeism as an “ailment” in and of itself, with causes rooted in conditions that would often be within management’s control, further asserting that such factors are the psychological contributors that lead to absenteeism.

By 1970, efforts were being made to define (or at least qualify) the term ‘presenteeism.’ Dr. David Smith’s “semantic somersault” derived an antonym for absenteeism in the Archives of Environmental Health (1970). Clarifying that no such word was to be found in the dictionary, Dr. Smith stated that the term could, by that time, be heard in conversation and seen in print. He designated three components of the concept: it describes the state of being present, is the opposite of being absent, and varies inversely with it- as the rate of one increases, that of the other decreases. Dr. Smith credited Uris as the man who may have coined the term, assuring the reader that his information followed from a May 1969 conversation with Uris.

Smith (1970) went on to distinguish between illness-absenteeism and non-occupational illness-absence, observing that some half of all instances of absence were due to sickness or injury and, of these, most (i.e. ninety percent or more) were of the

non-occupational variety. Alcoholism was the first of three special conditions mentioned as significant in the discussion, along with smoking and (in a more favorable light) employed handicapped. Smith agrees with others (Fox & Scott, 1943; Mayo, 1945) that absenteeism is management's problem. He suggested "interviews and counseling with emphasis on presenteeism" as part of a formal policy (Smith, 1970).

During the 1980s and 1990s, corporate mergers and downsizings resulted in a white-collar workforce anxious to impress upper-level management by staying at work beyond regular hours, bringing about a new application for the concept of presenteeism. The phenomenon of physical presence coupled with reduced productivity by such 'hangers-around' yielded in a new use for the word. For example, Aronsson, Gustafsson and Dallner (2000) mentioned slimmed down organizations as an important contributor; they cited a previous (1999) Aronsson report of many white collar workers putting in more hours than those for which they had agreed wage compensation, and they found changes to the sickness compensation system during the 1990's, including reduced benefit levels, to be among the causes for sickness presenteeism.

Druss, Schlesinger and Allen (2001) called presenteeism reduced effectiveness in the workplace. This represents a negative orientation, as an increase in presenteeism would result in a lessening of productivity. The negative orientation has become the industry standard, as the word 'presenteeism' has come to mean reduced productivity.

Koopman et al. (2002) established an emphasis on the attribute of presenteeism as a capacity or ability – they clearly stated that decreased productivity and below-normal work quality indicated decreased presenteeism. The authors said that their concept of presenteeism is that of active employee engagement in work. It is inclusive, with a focus

on cognitive, emotional, and behavioral engagement during work. They further identified two dimensions of presenteeism: work process (avoiding distractions), and work outcome (completing work). Subsequently, Pelletier and Koopman (2003) referred to the positive orientation as a “flexible definition.” They equated high performance with increased presenteeism and low productivity or poor-quality work with diminished presenteeism.

Goetzel, Ozminkowski and Long (2003) distinguished between productivity loss from absenteeism and the amount of unproductive time spent at work when affected by these conditions, referred to as presenteeism. This reinforces the focus of presenteeism as indicating physical presence, but it does so while strengthening the negative orientation of the emerging conventional use of the term.

Kumar, Hass, Li, Nickens, Daenzer, & Wathen (2003) conducted a study in 2001 that showed two significant points. First, they found that absenteeism and presenteeism exhibited exactly opposing rates of increase and decrease. During the onset of their chronic illness, subjects had greater absenteeism but, upon returning to work, productivity declined. Subjects returned to their work activities, reducing the number of work hours lost, but their effectiveness at work activities did not recover at the same rate. While the increased number of hours spent performing work indicated decreased absenteeism, presenteeism rose throughout the study period.

The second point might be of interest in the present project: Kumar et al. (2003) claimed to make use of a study sample of a unique nature, namely a “younger school-going population.” The researchers were able to utilize data from a group whose mean age was 19.3 years; their main focus in life was school, and the question of productivity

and presenteeism was no less valid; for example, sample scores correlated strongly with combined lost productivity across all venues (work, home, school) (Kumar et al., 2003).

Evans (2004) noted a practical distinction in thinking of productivity as consisting of two parts: absenteeism and presenteeism. The author discussed the demanding nature of measuring productivity as the concept is nebulous, and he indicated that productivity measurement is in a state of flux but moving toward a more rigorous and scientific basis.

Larry S. Chapman, MPH (2005) offered a discussion of the term presenteeism. He called it a “relatively newly coined term that is intended to help us conceptualize, measure and remedy health-related productivity loss for individuals who show up at work.” He credited one Gary Cooper of U-Manchester UK with coining the term in the early 1990’s. This view emphasizes treating the problem with breaks, vacations, and adherence to schedules (such as going home on time). The American view, according to Chapman, seeks to proactively prevent or treat health-related problems. This writer’s definition emphasized the “measurable extent” of presenteeism and its effect on productivity for those who choose to remain at work.

Collins et al. (2005) equated loss of productivity with decrements in presenteeism, which orientation agrees with the positive, Koopman use of the word. This orientation is the one utilized in the current study, as presenteeism is viewed as a capacity to perform. Also, as discussed elsewhere in this report, the capacity to perform while in a state of distraction is seen as an attribute; this ‘attribute presenteeism’ is of interest.

Workplace culture was one of the topics examined by Dew, Keefe and Small (2005). The aim of that research was to explore what aspects of the external social and economic environment and what factors internal to an organization would promote or

inhibit presenteeism. The paper used three metaphorical ‘presenteeism typologies:’ sanctuary, battleground and ghetto, ascribed to each of three workplace environments- a small private hospital, a larger public hospital, and a small manufacturing firm. They found that in the sanctuary environment, workplace identity centered around notions of family; in the battleground situation, identity was constructed in opposition to others, especially noting distance from management; and in the ghetto atmosphere, with predominately non- or semi-skilled workers, management were seen as non-responsive and non-caring; work conditions were described as miserable. These workers articulated little in the way of loyalty that would promote presenteeism, but it was forced upon them (Dew et al, 2005). The study discussed how the way in which presenteeism was rationalized was different at varying work sites and among different occupational groups. Presenteeism pressures differed by class and position in the social structure. One overwhelming finding was the intensity of the forces that promoted presenteeism and the pervasiveness of the phenomenon.

David Whitehouse, M.D., M.B.A., corporate medical director for CIGNA Behavioral Health management company, called presenteeism “an inherently invisible workplace problem” (2005). He defined the condition as being physically at work but not fully productive. Also, he noted that depression is one of the leading drivers of workplace presenteeism.

Sanderson, Tilse, Nicholson, Oldenburg & Graves (2006) defined presenteeism as either attending work when sick or working through illness. They noted that, while most presenteeism scales score greater decrement to performance with higher values, with a

negative orientation, the SPS-6 scores work opposite to this- a higher score equals better performance, or a positive orientation.

Yamashita and Arakida (2006) contributed this concise definition: “Presenteeism is health-related productivity loss while at work.” They referred to Chapman’s (2005) definition, and they further qualified the term to be “a self-rated measurable loss of work performance due to health problems in the workplace.” This definition identifies their ‘four attributes of presenteeism,’ and they classify antecedents into occupational and personal factors. These two factors might include the seemingly neglected psychological or behavioral elements, as ‘personal’ includes such as high stress or lack of fulfillment.

Cost Estimates

During the 1990s, efforts were begun to quantify the losses attributable to presenteeism. The idea of estimating such losses was nothing new, however: As Miller and Kelman (1992) observed, Hu and Sandifer (1981) noted that Malzberg (1950) and Fein (1958) had presented the first productivity loss estimates associated with mental illness, and other studies were noted as well. This area of research had been developed primarily in the area of labor economics (Frank & Manning, 1992).

Greenberg, Stiglin, Finkelstein and Berndt (1993) used the human capital approach to estimate in dollar terms the economic burden of depression in the United States, arriving at an estimate for 1990 of \$43.7 billion. Their study extended traditional cost-of-illness research to include reductions in productive capacity at work, in a category of morbidity costs associated with depression in the workplace.

Edington, Yen and Witting (1997) observed that since the 1970s, the objective of health promotion and disease prevention had been to reduce individual health risks. Major contributions to this field emerged at the worksite, identified as a focal point in the quest for a healthy society. As worksite health promotion programs mature, the authors suggested, the health promotion profession faces the challenge of establishing the financial value of its efforts in addition to the health value. The study examined the impact of changes in health practices on medical claims costs between 1985-1987 and 1988-1990; their findings provide strong evidence that improving individual health status is associated with financial benefits. This focus on medical claims costs can be seen as a means of quantifying dollars lost to illness as a function of worksite health promotion, and this can be seen as providing groundwork for Health and Productivity Management.

Goetzel et al. (1998), major proponents of the emerging HPM field, took a similar approach. They observed that the economic justification for health promotion and disease prevention had not, at that time, been firmly established in the literature—most research and program funding in the United States was directed at illness treatment rather than at prevention. This one-sided emphasis was, in the authors' view, at least partly due to the lack of valid data supporting an economic rationale for health-promotion and disease-prevention efforts. They offered to begin the process of recovery from this “industrial short-sightedness” by establishing a cost-based, as well as a health-based, reason for performing more prevention and health promotion. Empirical evidence had to be gathered and broadly communicated to clinicians, health plan managers, employers, and consumers. And first, researchers needed to demonstrate that poor health habits and

modifiable risk factors imposed a financial burden, that individuals with such risk factors cost more than those without these risks, even in the short run.

Furthermore, Goetzel et al. (1998) showed that evidence was accumulating that behavioral risk factors could be modified and that multi-component workplace health promotion programs can exert a long-term positive influence on health and lifestyle practices. Also, individuals who reported being both depressed and highly stressed were found to be 147% more costly than their counterparts, they said.

In 1999, the focus began to shift: a landmark study sponsored by Bank One (Burton, Conti, Chen, Schultz and Edington, 1999) remarked that the costs attributed to employee health problems were usually measured by employers in terms of direct health care costs, such as medical plan claims. Although it had been understood that employee health problems also produced indirect costs for employers, their measurement at that time had been far less frequent. However, the authors indicated that absenteeism and disability costs should be recognized as a significant contributor to an incomplete estimate of the total loss of productivity resulting from health impairment.

These costs provided just a partial measure of the total lost productivity for a group of employees whose health problems were so severe as to prevent them from working. Seldom measured were decreases in productivity for the much larger group of employees whose health problems had not necessarily led to absenteeism and a decrease in productivity for the disabled group before and after the absence period. This decrease could be captured by a measure of presenteeism, which Burton et al. called “the decrement in performance associated with remaining at work while impaired by health problems.” Presenteeism could be measured in costs associated with decreased

or slowed output, failure to maintain a production standard, additional training time, errors in work, substandard output, and other such outcomes.

The Bank One study then endeavored to make a more complete estimate of the decrease in worker productivity that is associated with health problems by using an objective measure of productivity and linking it with information from a health data warehouse. It made use of a Worker Productivity Index (WPI), a general indicator of the total productivity of a worker. This WPI was, in turn, part of a growing body of research instruments used by researchers and professionals in the burgeoning Health and Productivity Management industry (Burton et al., 1999).

Michael O'Donnell (2000) furthered the effort to articulate the relationship between health promotion and productivity management. The basic concept, he said, is that human performance is better when people are physically and emotionally able to work and have the desire to work. He mentioned reducing absenteeism and presenteeism, suggesting support of the primary-use and secondary-utility definition of the word. He also offered a simple schematic diagram (Figure 2.1) outlining the relationship between mechanisms linking health, productivity and profit (see appendix).

Druss, Schlesinger and Allen (2001) suggested an integrative approach to dealing with these connected ideas, by “measuring and addressing these domains in conjunction.” As stated subsequently in this chapter, these authors stressed the value of a health benefits package as a means to not only to attract and retain good workers but also to reduce illness-related absenteeism and to improve workplace productivity.

Goetzel, Guindon, Turshen and Ozminkowski (2001) offered a link between the health care arena and the business community, with suggestions for an integrative approach to addressing issues associated with presenteeism. The MEDSTAT study found that aggregate costs of providing health and productivity programs to workers had not been adequately assessed for American employers. The authors discussed the ‘silo effect’ of U. S. employers examining health program costs one area at a time and thus being generally only able to report the organization’s costs within any given benefit or program, such as group health, disability, or workers’ compensation. Consequently, they pointed out, managers were generally unaware of the costs associated with other programs and were almost never able to estimate total health and related lost productivity costs for the organization.

Goetzel, Guindon, Turshen, and Ozminkowski (2001) cited a previous (1998) Goetzel et al. study funded by the Health Enhancement Research Organization (HERO) that showed that employees who were depressed and highly stressed cost employers significantly more in health care costs compared with those without such psychosocial risk factors. They established a ‘best practice’ scenario for employers that could save them \$2562 per employee per year, a 26% reduction in Health and Productivity costs. They offered instances of best-practice activities collated from on-site visits to ‘benchmark’ organizations; 10 themes common to most were proffered including the following three examples:

- Alignment between HPM and the overall business strategy of the organization.
- Interdisciplinary team focus- individuals worked cooperatively across territories.
- The emphasis was on quality-of-life improvement, not just cost cutting.

Employers participating in benchmarking activities reported breakthrough improvements that resulted in cost control, improved quality, and enhanced profitability the authors reported, noting that programs had thus far rarely focused on health, disability, absence, and turnover in association with the achievement of these corporate objectives. However, the authors mentioned an increasing awareness on the part of many employers that these programs might play a significant role in achieving improved organizational productivity and increasing profitability.

Pelletier and Koopman (2003) cited an expenditure of over \$70 million in direct medical costs by a U.S. automobile manufacturer for lower back pain that would be alleviated by an “integrative medicine” model including use of the Stanford SPS-6 as a measure of clinical and cost effectiveness. Similar initiatives were mentioned on the international front, in such places as Singapore and including other U.S.-based firms.

According to Goetzel, Ozminkowski, Sederer and Mark (2002), employees who reported being depressed were 70% more expensive than non-depressed counterparts. Those who reported being highly stressed, and incapable of managing that stress, were 46% more costly than non-stressed employees. And, employees who were unfortunate enough to experience both depression and high stress were 147% more expensive.

Using a Medstat database from 1997-1999, Goetzel, Hawkins, Ozminkowski and Wang (2003) sought to establish the ‘Top 10’ most costly conditions for U.S. employers. In utilizing a human capital approach, they established a round figure of \$30 for average hourly costs including wages and benefits. They arrived at this figure as a reasonable compromise between an estimate produced by the Bureau of Labor Statistics (\$23.15) and an estimate derived from Medstat’s previous benchmarking study (\$34.25).

This practice is common to the human capital approach. The study found that physical and mental health expenditures across all health conditions averaged \$3703 per eligible employee for the sample, in 1999 dollars. Additionally, Goetzel, Ozminkowski and Long (2003) used the higher of the previously-mentioned wage figures (\$34.25) to estimate dollar costs to arrive at an estimate of \$352.73 as “the average presenteeism dollar” for a three-month period.

In a ten-year comparison with their earlier study, Greenberg et al. (2003) found that, while the treatment rate for depression had increased by 50% from 1990 to 2000, the economic burden had risen by only 7%. Citing “changes in the health care environment” including less costly measures, more outpatient services and a rise in medicine therapies, Greenberg et al. speculated that, while the overall quality of care for depression patients had likely suffered, since appropriate care for depression had been shown to improve clinical, quality of life, and economic outcomes substantially, there was still an opportunity to realize a favorable return on continued investment in the quality of care.

In an effort to expand upon previous work and fill in the ‘missing piece’ of presenteeism costs in estimating the costs of productivity loss, Goetzel et al. (2004) synthesized evidence about the total cost of health, absence, short-term disability, and productivity losses using cost estimates from a large medical/absence database combined with findings from several published productivity surveys. The study endeavored to advance understanding of the effects of health on absence, disability and productivity loss, and contribute to the development of valid and reliable measures of presenteeism, while connecting self-report measures with administrative records that showed healthcare expenditures and absence and disability data. Finding higher

presenteeism costs than medical in most cases, the study established that across all 10 conditions studied, presenteeism had the greatest share and was the top contributor to overall costs – averaging 61% of total costs. In the final analysis, the study found the condition depression/sadness/mental illness to be the third-highest condition of the ten, with a total annual cost of \$348 per employee (Goetzel et al., 2004).

Ozminkowski, Goetzel, Chang and Long compared and contrasted two different instruments for measuring productivity loss at a large employer in 2004. They found a difference of \$800 per year for average at-work productivity or presenteeism losses, with the Work Limitations Questionnaire (WLQ) measuring \$2000, and the Work Productivity Short Inventory (WPSI) measuring \$2800, per employee per year. The authors noted the likelihood that new productivity measurement tools would eventually be used by senior managers to better understand the full cost burden of illness within companies and to increase understanding of the value of medical treatment. They also offered a summary of nine health and productivity surveys described in peer-reviewed publications. Finally, they noted in their review that the Stanford Presenteeism Scale asked questions about particular diseases.

Lofland, Pizzi and Frick (2004) indicated that the Stanford SPS-6 instrument did not provide information that translated readily into monetary figures, which was the factor of primary interest in their study. Pelletier and Koopman (2003), however, indicated that the SPS-6 would in fact be used as a component part of an overall integrative medicine model, contributing to a positive effect on a company's bottom line. They aspired to establish a clear link between health, productivity

and monetary issues and to provide a standardized presenteeism measure in order to “bring order to an increasingly chaotic decision process” (Pelletier & Koopman 2003).

Wang et al (2004) found that the effects of depression were equivalent to approximately 2.3 days absent because of sickness per depressed worker per month of being depressed. The study claimed that the estimate of lost productivity related to depression on days at work was considerably greater than the lost productivity found in previous studies from sickness absence, and even with the relatively low salaries of the service workers in this study, the combined salary-equivalent effect of major depression on absenteeism and lost productivity was greater than \$300 per month.

Larry S. Chapman’s 2005 article included a table of the Top Ten Most Costly Health Conditions- depression was the third highest of these, with 27% of Total Expenditures Due to Presenteeism. He cited Goetzel et al. (2004) as saying that costs of presenteeism were greater than direct health costs. He also offered a list of 14 survey instruments for the measurement of presenteeism, with the assessment that the Stanford Presenteeism Scale (6-item) would indeed capture presenteeism. Finally, among the recommendations offered was the suggestion that an HPM initiative (or an employer) could measure presenteeism before and after some time period as part of program evaluation, including baseline periods and regular intervals.

Collins et al. (2005) concluded that costs associated with performance-based work loss or presenteeism greatly exceeded the combined costs of absenteeism and medical treatment. The highest annual cost per worker reporting a primary health condition was for depression, anxiety or emotional disorder. Their study was used to establish a baseline for the Dow company, for comparisons in future assessments.

While the study used the later, 13-item Stanford Presenteeism Scale (SPS), it referenced the Koopman SPS-6 work with regard to validation.

In agreement with Kessler (2003), Collins et al. (2005) found the cost of presenteeism to be the largest component cost for every chronic condition. Chronic conditions alone were estimated to cost Dow more than \$100 million annually in lost productivity for its U.S. workforce. Consistent with other published findings (Hemp, 2004; Goetzel et al., 2004); work impairment represented a far greater proportion of lost productivity compared with absenteeism (Kessler et al., 2003). The Collins study found that almost two thirds of total health and productivity management costs were attributable to work impairment. A similar magnitude (63%) was reported by Bank One, using a different instrument to assess work impairment (Hemp, 2004; Goetzel et al., 2004). These findings suggested that interventions that focus on absenteeism and ignore presenteeism not only underestimate the true magnitude of the impact of health on productivity, but also may not accurately characterize the financial return on health interventions (Collins et al. 2005).

Pillette (2005) discussed nursing as a major occupational field with a high degree of presenteeism, identifying depression as the major contributor. She also mentioned teachers as another group with high incidence, citing Aronson, Gustafson and Dallner (2005). Referring to the work of Stewart, Ricci & Chee (2003) and Goetzel, Ozminkowski, Sederer & Mark (2002), Pillette stated that presenteeism accounted for approximately 3 quarters of the United States' estimated annual 180 billion dollar loss in productivity.

Sean Sullivan, President and CEO of the Institute for Health and Productivity Management, cited the aforementioned Ricci et al. (2003) research as offering a \$50 billion annual cost estimate for the indirect cost of depression, and he pointed out that, since these costs are incurred in the workplace, they are paid by the employer and not the health plan (Sullivan, 2005). Citing research by Brady et al. (1997), and within the context of return-on-investment, Sullivan stated that even conservative estimates show non-medical costs to be at least twice as high as direct medical expenditures.

Whitehouse (2005) reported annual costs of presenteeism to U.S. employers as more than \$150 billion in lost productivity every year. This translates to an estimate of \$2,000 per worker per year, according to this author.

A study by Burton et al. (2006) examined the association between health risk changes and presenteeism changes in a two year period, 2002 to 2004. The study found that positive and negative, same-direction changes were indeed associated, by a factor of 1.9% productivity loss, or \$950 per year per risk change. Citing earlier work (also mentioned in this study) by Goetzel et al. (2002), Burton et al. discussed possible additional costs between \$99 and 185 million annually for risks beyond low-risk, suggesting that such increases will be likely if productivity issues are not addressed. Also including work by Ozminkowski et al. (2004), and referencing their own work from one year earlier, Burton et al. (2005) estimated productivity losses at up to \$2800 per employee per year, concluding by indicating a clear economic burden for employers.

Goldman and Drake (2006), referring to work by Kessler et al. (2006) reported costs of \$4,426 per person annually for lost productivity associated with major depressive disorder, and \$9,619 for bipolar. Using these data from the representative sample to

estimate the adult population of the U.S., lost productivity was estimated at \$36.6 billion for major depressive disorder and \$14.1 billion for bipolar disorder. This coincides with earlier estimates (i.e. Hemp, 2004) that call it simply “over \$50 billion annually.”

Kessler et al. (2006) estimated the annual population-level workplace cost of major depressive disorder to be some \$36.6 billion, which is similar in magnitude to the \$31.0 billion estimate reported in another study (Stewart, Ricci, Chee, Hahn, & Morganstein, 2003). In addition, Kessler’s (2006) workplace cost estimate of major depressive disorder plus bipolar disorder, \$50.7 billion, was very similar to the \$51.5 billion estimate reported elsewhere (Greenberg et al., 2003). Presenteeism was estimated to account for about 2/3 of these total costs, but the total cost for presenteeism as reported in the Harvard Business reviews was estimated to be at \$50 billion (Hemp, 2004).

Depression

According to Sanderson, Tilse, Nicholson, Oldenburg & Graves (2006), presenteeism is a hidden cost of mental disorders in the workplace. The authors clearly stated that this connection is direct.

Smith (1970) mentioned alcoholism as the first of three special conditions significant in a discussion of presenteeism, along with smoking and (in a more favorable light) employed handicapped. As mentioned elsewhere in this chapter, Smith agreed with many others (Fox & Scott, 1943; Mayo, 1945; Covner, 1950; Uris, 1955; Canfield & Soash, 1955). While connections between alcoholism and depression are so well established as to be common knowledge in a contemporary setting, the importance of searching for particular causes of presenteeism is suggested by this and other studies.

A 2000 study by Dewa and Lin reinforced the connection between economics and mental health, but did so with a focus on the impact of mental health on productivity. They indicated growing agreement that mental illness burdens the North American economy, while the impact on productivity remained unclear. The authors cited World Health Organization statistics circa 1996 that depression was a major cause of lost work days worldwide and would emerge as the leading cause of disability by the year 2020. Furthermore, they cited others whose studies indicated that from 20 to 30% of adults between the ages of 18 and 64 years would suffer from at least one psychiatric disorder in any 12-month period (Kessler et al., 1994, Offord et al., 1996). Finally, the study addressed the subject of presenteeism in particular, saying that those with a psychiatric disorder would have a greater number of days in which they were either unproductive or unable to function at all (citing Goering et al., 1996, Kessler and Frank, 1997).

While the authors presumed that previous studies focused primarily on lost work days as their measure of decreased productivity, Dewa and Lin (2000) suggested that there might be more subtle ways in which mental illness affects the national economy. Given that mental illness is perceived differently than physical illness, employees can be expected to react differently to its occurrence. Because they are physically able to function, they may go to work but be unproductive. Dewa and Lin found that those with mental health problems, either alone or in combination with other issues related to physical health, were far more likely to show up for work but require greater effort to function up to their normal. Also, employees were less likely to take time off for mental health than for physical reasons. Consequently, they would “dutifully show up for work day after day without seeking treatment.” But if their mental illness was related to the

workplace, they might continue to subject themselves to the factors that could exacerbate the problem. In the long run, the authors suggested, the absence of early detection and help could lead to significant disability and force workers to leave the labor force. As a result, employers would be hit twice – once with low productivity when employees were at work and again when they lost their workers.

Druss, Schlesinger and Allen (2001), working for the American Psychiatric Association, found that the odds of missed work due to health problems in 1995 were twice as high for employees with depressive symptoms in both 1993 and 1995 as for those without depressive symptoms in either year. The odds of decreased effectiveness at work in 1995 were seven times as high. They also concluded that depressive disorders in the workplace persist over time and have a major effect on work performance, most notably on presenteeism, or “reduced effectiveness in the workplace.” Citing Bodenheimer and Sullivan (1998), they posited that from the an employer-purchaser’s perspective, the value of a health benefits package lies in its ability not only to attract and retain good workers but also to reduce illness-related absenteeism and to improve workplace productivity. Lastly, Druss et al. (2001) suggested an integrative approach: they found that whatever the mechanisms linking depression, health care difficulties, and impaired work function, the study spoke to the potential importance of measuring and addressing these domains in conjunction. For employers, many of the financial costs of depression derive from its impact on workplace productivity; correspondingly, much of the value in treating depression would lie in the potential to improve work outcomes.

Goetzel et al. (2001) noted that depressed workers cost significantly more than others, as had been established in the previous HERO study (Goetzel et al., 1998).

They suggested that possible savings of over \$2500, or 26% per employee per year, were possible through the use of strategic ‘best practices’ such as ensuring that prevention, health promotion, and wellness staff were heavily engaged in the process. These individuals believed in and practiced healthy lifestyles, employee empowerment, and self-responsibility. They advocated the establishment of a ‘healthy company’ culture. Ironically, in these benchmark organizations, emphasis was placed on quality of life, not just cost-cutting; the health and productivity team focused not just on the 20% of acute-need employees, but on proactively making sure to pay attention to the other 80% as well.

Pelletier and Koopman (2003) reported an unexpected result of their studies in developing the Stanford Presenteeism Scale SPS-6: while the scale had been designed with regard for physical conditions, depression was the most common response to be written in by participants. The research team subsequently acknowledged the connection between presenteeism and psychological interfering factors. They further suggested that such issues can be especially important in management and knowledge-based positions.

Referring to the earlier HERO study, in which ten health risk factors were examined, Goetzel, Ozminkowski, Sederer and Mark (2002) recalled that the results were a surprise to many in the research community. The risk factor predicting the largest medical cost increase was depression. Among the findings of this report were:

- Depression is quite prevalent, with about 1 in 10 Americans suffering from it in any given year, and 1 in 5 being affected by the disease during his or her lifetime.
- Individuals who are depressed exert a significant cost burden on employers; depressed workers cost employers 70% more [than] non-depressed colleagues.

- There is growing evidence that productivity improvements occur [with] effective depression treatment, and those improvements may offset the cost of treatment.
- A business case for employee mental health can be formulated using a rationale of health enhancement, medical cost containment, and productivity improvement.

Goetzel, Hawkins, Ozminkowski and Wang (2003) found that affective disorders such as depression, neuroses, personality disorders and alcoholism were among the top ten most costly conditions for U.S. employers. And Goetzel, Ozminkowski and Long (2003) addressed significant reductions in productivity due to anxiety disorders and depression, observing that Claxton et al. (1999) noted an improvement in absenteeism shortly following the onset of treatment for depression.

Greenberg et al. (2003), having found an increase in treatment for depression over a ten year period, and notwithstanding speculated denigration in overall care, indicated an opportunity for employers “to realize a favorable return on continued investment in the quality of care.” Appropriate care for depression had been shown to improve clinical, personal and economic outcomes for workers and employers.

The aggregate condition depression/sadness/mental illness was repeatedly among the highest contributors to presenteeism costs, being one of the four with presenteeism costs greater than \$200 per year, per employee, according to Goetzel et al., (2004). In fact, depression/sadness/mental illness was the third-highest of ten conditions studied.

Lerner et al. (2004) clearly identified depression as the “leading cause” of the social and economic burden of the “rising tide” of chronic health problems worldwide. They found that employees with depression had more new unemployment than those in the comparison groups, and among the still employed, significantly more job turnover,

presenteeism, and absenteeism were attributed to those with depression. Additionally, significantly more co-morbid medical conditions and poorer mental health status were reported by the depression groups, income increased less for the depression groups than for others, and those with depression also had more presenteeism. Participants who were in the depression groups were less able to perform mental and interpersonal tasks, with a frequency of half that of participants in comparison groups.

Referring to earlier work, much of which is included in this literature review, Lerner et al. (2004) claimed that their study was the first to comprehensively assess work outcomes among employees with depression. Regardless of the measure used, employees with depression did worse than those in the comparison groups.

More employees with depression became unemployed, began a different job, were limited in their ability to perform their jobs, and missed time at work. Employees with depression had an unemployment rate approximately five times the rate among employees in the control groups. And, although turnover can sometimes lead to a better job, the data suggested that it tended to result in lower earnings for depressed employees.

Sean Sullivan (2004) agreed with these others that depression as a leading reason for lost productivity or presenteeism. He then advised that basing health plans solely on direct medical cost savings may not provide patients with the most effective forms of treatment, and in some cases may increase indirect costs to employers.

However, he made it clear that an integrative approach can lead to reductions in costs.

Wang et al. (2004) contributed to the emerging discovery of depression as a leading cause (or associated factor, at least) of depression. They found that, of seven conditions occurring with sufficient frequency for their study, depression was the only

one significantly related to decrements in both of the dimensions of work performance assessed, task focus and productivity. They also found that the costs of productivity losses related to depression exceeded the costs of treatment. The authors further noted that it was not possible to ascertain from their information whether depression caused productivity loss or vice-versa, though an interaction may be likely; and they mention a lack of clarity around the matter of generalizability, or whether their results from service workers would be directly relevant to others.

Larry S. Chapman agreed with Goetzel et al. (2004) that costs of presenteeism were greater than direct health costs. Along with the suggestion of including presenteeism questions as part of evaluations, including baseline periods and regular intervals, Chapman suggest an integrative approach to what he called a Worksite Health Promotion (WHP) program, similar to Health and Productivity Management, or HPM.

Collins et al. (2005) noted that depression, anxiety, or emotional disorder responses were associated with the most work impairment in their 2002 study for the Dow Chemical Company. The study also found depression, anxiety or emotional disorder to be the most often reported primary health condition They suggested that this indicates an opportunity for management, healthcare providers and policy-makers.

Sullivan (2005) recommended proactive measures to identify employees at risk for depression, and pharmacological treatment for those already depressed. The author also suggested “busting” the silos of compartmentalization of costs (medical, pharmacy, behavioral health and productivity).

Goldman and Drake (2006) reported on a paper by Adler et al. (2006) in which the authors found that continued job performance deficits were exhibited by depressed

workers whose clinical status had improved. They remained more impaired than other, more healthy subjects. The suggestion was made that workers with residual symptoms would need supports or accommodations to work effectively (Goldman & Drake, 2006).

As reported in another section of the current chapter, costs of depression in the workplace were estimated to be in the range of \$30 to 50 billion annually (Kessler, 2006; Stewart et al., 2003; Greenberg et al., 2003) and estimates for presenteeism were of similar magnitude (Hemp, 2004). Some reports included presenteeism as a percentage of total costs for depression (Greenberg et al.), while others indicated such totals for presenteeism alone (Hemp, 2004).

Screening

In agreement with earlier work by Reynolds & Shister (1949), Covner (1950) distinguished between absenteeism as either *management-centered* (quality of supervision, size of department, nature of work, etc.) or *worker-centered* (sickness, transportation difficulties, etc.). The author also suggested that management should take responsibility for the absenteeism issue, asserting that solutions can be worked at through planning, selection and training.

First among the recommendations offered by Canfield & Soash in 1955, in their effort to development a “constructive idea of presenteeism,” is that ineffective selection and placement procedures usually are considered to be at the root of most personnel problems. The authors suggested careful attention to selection procedures as perhaps the most important single step.

As stated in the first section of this chapter, Smith (1970) agreed with others (Fox & Scott, 1943; Mayo, 1945) that absenteeism is an issue worthy of and necessary for the attention of management (Covner, 1950, Uris, 1955; Canfield & Soash, 1955). He suggested interviews and counseling with emphasis on presenteeism as part of a formal policy (Smith, 1970).

In the oft-cited Bank One study, Burton et al. (1999), with their Worker Productivity Index work loss information, found evidence to support the idea that worksite interventions can provide psychological guidance and reinforcement for the maintenance of treatment regimens such as Employee Assistance Programs. They also suggested executing corporate benefit plans that encourage early mental health treatment.

Another instrument, the Migraine Work and Productivity Loss Questionnaire (MWPLQ), was devised by Lerner et al. (1999). This survey sought to measure two important dimensions of work disability: on-the-job difficulty performing work role demands and productivity loss due to time missed. This is an important distinction. While the impact of migraines on work performance had been an area of interest for some time, and overlapped (but extended beyond) the Lerner study, the ability of an instrument to measure presenteeism separately from absenteeism was new.

Studies by Wrate (1999) and Aronsson, Gustafsson and Dallner (2000) found that members of some occupational groups were more prone or susceptible to presenteeism issues than others. Nurses and doctors are stereotypical multi-taskers for example; R. M. Wrate, citing work by Forsythe (1999) and others, recommended increasing staff numbers to reduce doctors' presenteeism. The consultant psychiatrist reported findings by Forsythe et al. on senior doctors' reluctance to stop working and consult others when

they became ill, and he warned against “overlooking these important organizational issues” (Wrate, 1999). Viewing the problem of presenteeism as an ‘organizational issue’ may prove to be significant indeed, as solutions- such as the workplace health programs suggested by many professionals, or the systemic approach put forth by Loh and Hendrie (2006) for the Hospitality Industry- will likely be ‘organizational’ in nature.

In a Swedish workforce study, Aronsson, Gustafsson and Dallner (2000) found that members of occupational groups whose everyday tasks include providing care or welfare services, or teaching, have a substantially increased risk of being at work when sick. The link between difficulties in replacement or finding a stand-in and sickness presenteeism was confirmed by study results. Connections were made to the healthcare industry and teaching, and further research might include Hospitality workers as among those who show up for work when ill, called ‘sickness presenteeism.’ Wrate (1999) suggested that the causes of doctors' stoicism were likely to be complex, some admirable and others commonplace, but a recurring factor in many reports was the frequent difficulty of arranging locum cover when they became ill and the extra burden that then fell on already hard-pressed colleagues.

Lack of sick-leave can be a factor in the hospitality industry: Aronsson et al. (2000) found an almost threefold increased risk of presenteeism in the restaurant and service sector, specifying cooks and waiters. Among the key points of this study were a connection between being hard to replace and sickness presenteeism, and an indication that groups with high sickness presenteeism also showed low monthly income.

Cullen and McLaughlin observed a clear and distinct practice of presenteeism behaviors as a matter of culture and “managerial value” in Irish hotels. Referring to

Hofstede's 1980 and 1991 work, the researchers discussed presenteeism "as a value and a behavior," noting that the hospitality industry either programs the trait into hotel managers or cultivates the quality in those who are attracted to careers in the hospitality field.

Dewa and Lin (2000) clearly pointed out the possibility or even likelihood that lack of early detection and professional help (for mental health issues that would affect on-the-job performance) would lead to exacerbated problems, increased disability, reduced productivity, and labor force attrition. Suggested again by Loh and Hendrie (2007), this "100% turnover" endemic to the hospitality industry could be combated by training and development, among other Human Resource measures.

Part of the integrative approach suggested by Druss et al. (2001) would involve measuring and addressing the various domains of contributing factors to presenteeism and the outcome issue itself in conjunction. Early detection such as screening would contribute to this emerging system.

McCunney (2001) discussed both the need for and the likelihood of future utilization of self-assessment devices relevant to job duties and productivity. He suggested that occupational health services could play a role in enhancing productivity in a variety of ways. Further stating that new methods were then being introduced that would go beyond simply reducing absenteeism, McCunney identified the need to assess the productivity and output of people performing cognitive activities.

In 2001, the Institute for Health and Productivity Management published the volume that would come to be called 'The Gold Book.' Authored by Lynch and Riedel, *Measuring Employee Productivity: A Guide to Self-Assessment Tools* presented and reviewed seven self-assessment instruments that had been used in a research setting to

estimate work performance and detect the effects of health on performance and productivity. The tools reviewed in the Gold Book were in use in 2001, or were in the process of serious validation. The Stanford/ American Health Association Presenteeism Scale (SAHAPS) was at that time in the Beta testing phase of development, having not yet been fully validated. Among the strengths listed for the SAHAPS were that the test assessed the presenteeism aspect of work performance; also mentioned were ease of administration and the future development of a short version of the test.

The SPS-6 was the next tool developed by the Stanford team (Koopman et al., 2002). Focusing on cognitive, emotional, and behavioral engagement during work, the SPS-6 addresses both the needs identified by McCunney (2001) and the standards suggested by Goetzel et al. (2001), as well as continuing with the strengths indicated in the Gold Book (Lynch and Reidel, 2001).

With discussion of the previous SPS-34 and SPS-32, Koopman et al. (2002) identified six key items to describe presenteeism, resulting in the SPS-6. The item reduction was done in two stages, from 32 to 12 questions and from 12 to 6. This was done in order to capture both dimensions of presenteeism intended to assess. In the first item reduction, selected items were consistent not only with the two dimensions but also with the additional criterion of balance in the number of questions using positive or negative wording- agreement and disagreement with an equal number of items would reflect greater presenteeism. In the second reduction, Koopman and company used the additional point that items would be generalizable across work settings and occupations.

The study found that the SPS-6 “had excellent psychometric characteristics, supporting the feasibility of its use in measuring health and productivity” (Koopman et al., 2002).

Further discussion of the instrument will be found in another section of this report.

Pelletier and Koopman (2003) suggested that the SPS-6 could be used by a human resources director or by medical staff to assess both clinical and monetary effects of presenteeism. They further suggested that resulting intervention could reduce the deleterious effects of benefit costs on employers’ profit margins and workers’ wage increases. Finally, the brevity and ease of use of the instrument were cited as being suitable for use online or included as part of a standard health risk appraisal.

Based on earlier work by Newell, Girgis, Sanson-Fisher, Savolainen and Hons (1999), Goetzel, Ozminkowski and Long (2003) established criteria for what makes a ‘good’ self-reporting instrument; this is discussed in another section of the current study. They also offered discussion of the Stanford Presenteeism Scale and other instruments, as well as the Lynch and Reidel ‘monograph,’ so it is apparent that a body of research is emerging. However, in agreement with Koopman et al. (2002), they noted that the measurement of on-the-job productivity losses is still in its infancy. Goetzel et al. (2003) then offered “yet another tool to measure this concept” (the WPSI instrument), this one intended to “provide direction and strategic focus for employers.”

In their review of self-reporting work performance questionnaires, Kessler et al. (2003) faulted the Stanford Presenteeism Scale for introducing a bias around white-collar as opposed to other workers. Upon finding fault with a number of instruments, the authors created their own device designed to estimate costs of health problems attributable to reduced job performance and other factors, and they did this with

what they called “calibration against objective measures” and “equal relevance across the occupational spectrum.”

Noting increased interest in measuring productivity in more concrete terms and measuring the presenteeism component particularly, Evans (2004) discussed the development of new techniques to capture this data. Equating the development of empirical methods with “scientific advance,” the author noted progress made in the measurement of this information. Researchers interested in using productivity questionnaires should consider three areas, Evans suggested: “psychometric properties of the questionnaires, administration complexity, and the setting of the evaluation” (2004).

Ozminkowski, Goetzel, Chang and Long (2004), in their summary of nine peer-reviewed health and productivity surveys, noted the likelihood that new tools would eventually be used by senior managers to better understand the full cost-burden of illness. They also indicated that an emerging benefit of such instruments would be an increased understanding of the value of medical treatment.

According to Lofland, Pizzi and Frick (2004), the Osterhaus technique was the first method developed for the purpose of measuring productivity loss due to illness. Stating that this 11-item test was published in 1992, the authors then noted that the reliability and validity of the questionnaire had not been established. Of the 6-item Stanford test, Lofland et al. noted that the instrument did not provide information that translated readily into monetary figures (which was the factor of primary interest in their study), but they did show favorable ratings for reliability and consistency.

Prasad, Wahlquist, Shikiar and Shih (2004) offered an extensive discussion of test evaluation criteria including validity and reliability (or ‘psychometric properties’), responsiveness and generalizability, and recall period and ease of administration. Only six instruments (not including any of the Stanford tests) were reviewed in this article; however the authors cited earlier work (Muldoon et al., 1998) as indicating that validity can be examined in several ways, but comparison with the best indicator available (criterion validity) is the preferred method. Chief among the favorable comparisons of the SPS-6 with other instruments is The Gold Book (Lerner et al., 2001), which clearly shows the instrument to perform well.

Turpin et al. (2004) established the reliability and validity of the Stanford Presenteeism Scale, as discussed in another section of this report. They also concluded that the SPS would be appropriate for employers who seek a single scale that would measure health-related productivity in a diverse employee population. The condition with the greatest impact on productivity is depression, according to their findings. They noted that depression can greatly impair ability to complete work and to avoid distraction, the two dimensions measured by the SPS-6. However, they clarified that this does not mean that the survey would provide a screen for mental illness.

Larry S. Chapman (2005) recommended using presenteeism information in a number of screening or evaluation instruments, including periodic Health Risk Appraisals. The purposes of such tools would include diagnosis, prevention and treatment of presenteeism-related issues. Human resource professionals and Employee Assistance Programs could be utilized in the implementation of such workplace wellness initiatives.

Pilette (2005) identified the Stanford Presenteeism Scale as among the valuable tools for measuring presenteeism and suggested screening for depression as a relatively inexpensive way to achieve substantial productivity gains. Pilette then discussed Employee Assistance Programs (EAPs) as an important resource for dealing with both depression and presenteeism, and she offered a ‘snapshot’ of an EAP screening or self-report assessment, with questions quite similar to the SPS.

Sullivan (2005) offered an “integrated approach” that shifts focus from prevention to disease management to health and productivity management (HPM). Such a program would begin with a health risk assessment, a key screening device.

Whitehouse (2005) offered a holistic view, proposing that presenteeism can be linked to other behavioral health issues endemic to today’s sociological realities, and he recommended that Employee Assistance Programs recognize, diagnose, and treat the condition and its root causes. Whitehouse suggested that senior management needs to get involved, with input from psychologists and behavioral health professionals, and that a systemic solution must be sought by even CEOs and top management. This would be achieved by senior mgrs “talking the CEOs language,” putting it in terms of real dollars, working in the context of turnover and such management concepts, and referring to FMLA and similar language.

Goldman and Drake (2006) established that depressed workers, while improving in both their condition and job performance, still need ongoing attention. They suggested the use of Employee Assistance Programs and other occupational strategies to treat lingering symptoms and improve productivity. Adler et al. (2006), upon whose work the Goldman and Drake report was built, recommended the use of EAPs and “work-focused

interventions” such as occupational health clinics to benefit employees with depression. The latter authors further suggested that a survey instrument would be a useful device.

Sanderson, Tilse, Nicholson, Oldenburg & Graves (2006) used the Stanford SPS-6, in comparison with three other measures, to examine sensitivity of the instruments to depression and anxiety. According to these authors, presenteeism is a hidden cost of mental disorders in the workplace, and this connection is direct. They cited a long line of researchers (included in this study) in their assessment of presenteeism as a function of mental or emotional health. They defined presenteeism as either attending work when sick or working through illness. They refuted the earlier claim by Collins et al. (2005) that just to measure presenteeism is more important than the measure used, as their study showed one instrument (the Workplace Limitations Questionnaire) to be more sensitive to changes over time than the others. Also, they noted that, while most presenteeism scales show greater decrement to performance in higher scores- or “higher scores indicate worse performance,” which is a negative orientation, the SPS-6 scores work in the opposite to this- a higher score equals better performance, which is a positive orientation. Finally, the study agreed with previous findings by Aronsson and Gustafsson (2005), Collins et al. (2005) and Stewart et al. (2003) that presenteeism is a stronger correlate with depression than absenteeism, “indicating a trend for persons with depression/anxiety to work when sick rather than take time off” (Sanderson et al., 2006). In agreement with Greenfield et al. (1997), Sanderson et al. (2006) recommended using screening programs.

A 2007 literature review and comparison study by Goetzel et al. found that few employers (6.9% of 1500 surveyed) offered a comprehensive health promotion program, even as these did indeed offer a wide range of health promotion activities.

One of the five key elements to a comprehensive program was employee screenings with adequate follow-up.

Loh & Hendrie (2006) provided a viewpoint often cited in this report. Advocates of 'Human Capital' as one of an organization's strongest assets, the authors called current conditions in the hospitality industry "a crisis so immediate and obvious you may have already missed it." They recommended a holistic strategy such as has been suggested by Chapman (2005), Sullivan (2005) and others. An instrument such as the SPS-6 could be an appropriate first step or a screening device in the selection process of hiring.

CHAPTER 3

DESIGN AND METHODS

This thesis focuses on an important issue for leadership in the hospitality industry by providing a quantitative comparison of attribute presenteeism among graduate students at the University of Massachusetts, Amherst. The study also investigates possible differences in the characteristic between genders and between individuals of different lengths and levels of work experience, and between those reporting physical and psycho-emotional factors.

The purpose of this study is to ascertain whether differences exist in attribute presenteeism among master's students from different departments at the University. The comparative study uses quantitative, statistical methods to fulfill this objective.

An instrument to identify an individual's ability to perform while distracted could be a useful selection device. This study administered the Stanford SPS-6 to groups of master's students at the University of Massachusetts - Amherst. A brief questionnaire, modeled after the SPS-6 and included in the interview process during hiring, could be used for job-matching.

This chapter presents the methods for research in this study. The information is organized into five main sections after this introduction, followed by a summary. First, a discussion of research methods and design of the study is offered, explaining why these are appropriate to the study and how they will accomplish the stated goals and objectives.

The second section of this chapter discusses the population and sample of this study, the data collection procedures, and the rationale for these methods. The validity

of the study is explained in the third section, including internal, external, and construct validity of the SPS-6 test instrument. Next, a brief discussion of baseline data is offered. The final section explains the statistical methods used to analyze the data, and a brief summary concludes the chapter.

Research Method and Design Appropriateness

The purpose of this study is to examine whether differences exist in the presenteeism behaviors among master's students of various curricula at the University of Massachusetts - Amherst. To fulfill this purpose, a quantitative research design was used. Furthermore, a descriptive design was utilized, using primary data, and this data was cross-sectional in nature.

While the need for a quantitative design might seem obvious or self-evident, some explanation is in order nonetheless. Qualitative uses data that are categorical and collected without use of, or conversion to, numbers (Hair, Babin, Money & Samouel, 2003). Analysis of this data can be subject to interpretation by the researcher, replete with biases and other subjective colorations. Conversely, quantitative data are known to be more objective, as results are not dependent upon opinions or colored by personal expectations, assumptions or experiences. Quantitative data are, as stated by Hair et al. (2003), "reliant only upon the researcher's skills as an analyst." Furthermore, Hildebrand and Ott (1996) show, simply and schematically, that quantitative variables call for quantitative methods. Data collected in this study were strictly in numerical terms.

The descriptive approach is clearly the most appropriate tactic for this study. If questions or a hypothesis could not be articulated, or if the existing research were insufficient to the formulation of concrete ideas, goals and objectives, then exploratory

research would be in order. On the other hand, if this study sought to establish underlying roots or reasons for behavior, then a causal design would be desirable. For example, if a research question asked for an explanation of *why* some groups exhibit a greater degree of presenteeism, then the study would go beyond a descriptive design to a causal one.

Primary data were used in this study, as the researcher apprehended the information first-hand, from a survey created and administered (without changing the SPS-6) for the purpose of fulfilling and completing this project. A number of databases exist within the Health and Productivity Management field of study- most notably, the multi-employer HERO database as used by the MEDSTAT group (Goetzel et al., 1998), or labor market surveys such as that used in Sweden by Aronsson (2000). Indeed, several sets of data exist purely in connection with the evolution of the Stanford test instruments including the SPS-6, such as those used in the development and validation of the instrument, including U.S. Postal workers and employees of Stanford University and San Mateo County in California (Pelletier & Koopman, 2003). Bank One conducted a landmark study, in conjunction with Northwestern University in Chicago and published in 1991, to begin understanding how employee health can indirectly affect employer costs (Burton, Chen, Conti, Schultz & Edington, 1991).

However, these databases were used differently than what is needed for the present research paper. Previous studies do not compare groups as this one does. This study looks for differences between groups of people as represented by their choice of curriculum, which in turn is seen as an informed career choice. As previously mentioned,

causation is left aside in this study, but observable and statistically significant differences are noted; this information may well prove useful to subsequent research.

Finally, the nature of the research design is cross-sectional rather than longitudinal or time-series (Groebner, Shannon, Fry & Smith, 2001). This study distributes and collects the survey data once and once only, at a particular point in time, so this design is clearly cross-sectional.

Population, Sampling, and Data Collection

The population of interest in this study is the graduate student population at the University of Massachusetts in Amherst, Massachusetts; specifically, University master's students. This population, while readily available to the researcher as a matter of convenience, is deemed appropriate for the project for several reasons. As has been established in previous discussions, master's students will have had some years of work experience. In fact, some departments, such as Nursing and the School of Management, require that a certain amount of work experience has been accomplished after completing an undergraduate degree and before returning to the academic environment. It then becomes a foregone conclusion that these participants will be older than undergraduates, with more clarity of intention and selection in their choice of both curriculum and career.

This population is of interest because it represents (presumably) the leadership of the future in a variety of fields of endeavor. These particular graduate students might even be of a more career-minded bent than the alternative (PhDs), as the latter group can reasonably be expected to continue with academic pursuits: they will teach as a career. Master's students are expecting to proceed back out into the work-world, so they are career-minded in a very real and relevant sense.

This study addresses the question of whether master's students of various academic or career tracks exhibit any differences in their six presenteeism behaviors, or whether differences exist in the total presenteeism score, as measured by the Stanford Presenteeism Scale, SPS-6. This is an important leadership issue in the 21st century.

Sample / Participants

Using Fall 2006 enrollment statistics, 16 departments were identified within seven of the University's nine schools and colleges offering master's degree programs, which were suitable for this study. These 16 departments all have enrollments of 20 or more. Regrettably, the School of Nursing has only 12 students. The other constituent to be included, the College of Natural Sciences & Mathematics, could be accommodated by combining two departments. Interdisciplinary programs were omitted from this consideration, as the only one with enrollment of 20 or more is the MBA/MS Sport Management dual degree- this combination is clearly within the School of Management and was covered by MBA enrollment.

Also worth noting is that the potential existed for some 500 to 600 responses to be returned. This could have become difficult to manage. Two hundred returned surveys was deemed to be a more reasonable prospect.

Data Collection

In order to raise response rate, two viable techniques were employed. Jobber and O'Reilly (1996) established six practices for raising response rate for industrial mail surveys, and these principles are expected to apply to other methods. Two of the six techniques have the potential to increase the response rate by 20 percent or more: prior notification, especially with personal contact; and assurance of anonymity, which would

reasonably be considered standard practice in a project such as this (Hair et al., 2003).

The following procedures were engaged to obtain the sample. First, suitable classes were determined- classes with maximum program enrollment were identified and professors contacted to secure approval for participation. Dates were coordinated for researcher appearance in the class; instructors briefly mentioned the idea to the students. A cover letter and personal narrative explained the purpose and nature of the study and assured confidentiality to all participants, and included assurance that the survey would take no longer than 10 to 15 minutes to complete. At the prearranged time, the researcher came to the class to administer the surveys, collecting them personally immediately upon completion.

Had e-mail been selected as a preferable approach, then the in-person appearance would still have been used in an effort to raise response rate (Jobber & O'Reilly, 1996). The data was entered into the statistical software program, SPSS, and checked for accuracy according to prescribed methods.

Survey Instrument

The survey document consisted of three sections. The first section served as an introduction; it included instructions for filling out and submitting the survey. The second section included the actual instrument, the Stanford SPS-6. The third and final section asked the demographic qualifiers: Curriculum/department, work experience length, work experience level, and nature of health issue/distractor. All survey items were limited to single-answer possibilities only. The SPS-6 was used 'as is' with no modification except in the matter of asking the respondent to separately identify the nature of the distractor. Whereas the SPS-6 mentions 'health problem' parenthetically,

with a footnote indicating that other descriptors can be substituted, this survey included the qualifier for ‘nature of distractor’ (physical versus psycho-emotional) as an additional question in the third section of the document. This is consistent with discoveries made in the testing phase of the instrument, as Pelletier and Koopman (2003) found psycho-emotional conditions to be reported as distractors more often than the presumed physical conditions. So, no modification of the original test actually came about; these qualifiers appeared separately.

The SPS-6 was developed using statistical procedures and psychometric analysis, including a series of studies that led to the creation of the SPS-32, a much longer test instrument that preceded the SPS-6. Three studies in California, with employees of Stanford University, the U.S. Postal Service, and San Mateo County, were utilized in reducing the 32-item test to the shorter SPS-6 (Pelletier & Koopman, 2003). The SPS-6 measures cognitive, emotional, and behavioral aspects of concentration as one dimension of presenteeism (psychological focus, or ‘avoiding distraction’) and process outcome of work (work focus, or ‘achieving outcomes’) as another. These dimensions are reflected in the wording of the six questions, three positively worded and three negatively worded. Generalizability across settings and occupations was also a factor (Koopman et al., 2002).

Data Type

The Stanford SPS-6 Presenteeism Scale includes six items across two dimensions, work process (avoiding distraction) and work outcome (completing work):

- Because of my [distractor], job stresses are harder to handle.
- Despite [distractor], I am able to finish hard tasks in work.
- My [distractor] keeps me from taking pleasure in my work.

- I feel hopeless about finishing some tasks, due to [distractor].
- I am able to focus on achieving goals, despite my [distractor].
- Despite [distractor], I feel energetic enough to complete work.

The participant is asked to rate experiences over the past month, as a moment in time, and these answers can change over time (the SPS-6 can be used for longitudinal studies).

Answers are given as one of five points on a Likert-type scale, ranging from ‘strongly disagree’ to ‘strongly agree,’ with ‘uncertain’ being the neutral, third possible answer.

Three items are reverse-scored in accordance with the negative wording.

The total SPS-6 score is the sum total of positive and reverse scores; this results in the presenteeism score. According to Koopman et al., (2002), “a high SPS-6 score indicates a high level of presenteeism; i.e., a greater ability to concentrate on and accomplish work despite health problems.” This study equates this statement with what has previously been called ‘capacity to perform in the face of distraction,’ or that which could also be seen as the ‘multi-task-ability’ that some might say is so valuable in and endemic to the Hospitality Industry (Loh & Hendrie, 2006; Dewa & Linn, 2000).

Finally, the 2nd, 5th and 6th items above are reverse-scored. Presumably, these are the positively-worded questions. The brevity of the SPS-6 is also apparent above.

Instrument Reliability

A number of studies have established the reliability of the Stanford tests. Pilot work linked with the 32-item forerunner to the SPS-6, then called the Stanford/ American Health Association Presenteeism Scale (SAHAPS), was described by Lynch and Reidel in 2001 in their landmark “Gold Book.” In this volume, the Stanford test was grouped

with six other, well-established health-and-productivity self-assessment measures. The SAHAPS stood apart as the first to focus specifically on the assessment of presenteeism.

Koopman et al. (2002) established that the SPS-6 has excellent psychometric characteristics and “assesses what was covered” by earlier instruments. Their report described the care taken, with bona fide statistical procedures, in identifying the six dimensions of presenteeism and reducing the number of items in successive stages. Validity, discussed in the next section of this chapter, was also conferred in that article.

The definitive assessment of the SPS was contained in a report by Turpin et al., entitled “Reliability and Validity of the Stanford Presenteeism Scale” (2004). By this time, the test was owned by Merck & Co. and had been increased to 13 items. This version of the scale was introduced to fill the gap in measures to assess knowledge-based (as opposed to just production-based) jobs; as with SPS-6, favorable comparisons were made with the rest of the ‘family’ of health-related productivity self-assessment tests.

Further use of the Stanford tests has been made by a number of other academics and professionals, most notably by the Dow Company: Collins et al. (2005), also testing concurrently with other measures, furthered the assertion that the SPS tests are reliable, as well as useful and valuable. A more exhaustive review of the literature is presented in Chapter Two; a more detailed analysis of validity follows in this chapter.

Pre-testing

In order to develop and establish the reliability of the survey instrument used in the current study, including the unadulterated SPS-6 version of the Stanford Presenteeism Scale, an informal pilot study was conducted. The purpose of this ‘test-run’ was to determine whether the instrument was of sufficient brevity, clarity, and ease-of-use to

satisfy the requirements of this project. Mostly, it was important for this survey to be quick and easy to fill out, with no confusion. Having secured just ten or so minutes of students' class-time, it was imperative that respondents would be able 'dash off' answers.

The first group to complete the survey was the Hospitality and Tourism Management class. Since this group was familiar to the researcher, it was a simple matter to ascertain whether the instrument presented any problems. Total time was noted; the questionnaire really should take no more than five minutes to complete. These respondents were asked whether they encountered any difficulties in completing the test; mostly of concern were the clarity of the instructions and the ease of filling out the survey. Any difficulties were considered before subsequent testing ensued.

It should be noted that one of the objectives in developing the SPS-6 was in fact brevity or ease-of-use. So, little difficulty was anticipated in this regard. The pilot study was expected to confirm what had been established by Koopman et al. (2002) and Pelletier and Koopman (2003) in terms of brevity and ease for the SPS-6. The real utility of the pre-test was to assure that the researcher had honored and maintained this characteristic, and not obfuscated the simplicity or directness of the original instrument with this project's addition of the third section of demographics and qualifiers.

Instrument Validity

The present section of this report establishes the reliability and validity of the Stanford 'family' of tests and the SPS-6 in particular. As has been conveyed, the Stanford/American Health Association Presenteeism Scale evolved into SPS-32, SPS-6, and then into the SPS, a 13-item scale. Reliability and validity of the Stanford 'family' of tests has been documented in a number of articles that have been cited previously and

appear again in this section. Internal and external validity are addressed, as well as content, construct, and criterion validity; also, concurrent, convergent and discriminant validity, as functions of these, and as addressed in the literature, are discussed.

Reliability has to do with an instrument's consistency over repeated results. In other words, similar outcomes should be arrived at as a test is done multiple times. Care was taken by Koopman et al. (2002) in reducing the SPS-32 from earlier versions to 12 questions, and then to 6. Cronbach's alpha was observed at .80 when arriving at the 6-item version, indicating high internal consistency; slightly higher coefficient alphas were observed in the subsequent, 13-item version. So, it can be seen that respondents answered questions in a consistent manner over repeated applications of the tests.

Content Validity

Indicating that the SPS-6 asks what is meant to be answered, or that the scale measures what it is supposed to measure, is a difficult matter when operating in an area where little concrete data exists. Absence data might be readily available, but quantitative information for productivity loss attributable to illness or distraction has thus far been in short supply. Therefore, it has become customary and appropriate to assess construct and criterion validity as ways to establish the validity of an instrument.

Construct Validity

Factor analysis of the SPS-6 using Varimax rotation with Kaiser Normalization yielded results suggesting that two underlying dimensions of presenteeism were "tapped" by the scale, namely 'completing work' and 'avoiding distraction.' The first factor loaded strongly on the three positively-worded items, and the second loaded weakly on these but strongly on the three negatively-worded (reverse-scored) questions.

Therefore, it can be seen that the SPS-6 measures what Koopman et al. (2002) intended, the two dimensions of presenteeism as outlined above.

Convergent validity, established by Turpin et al. (2004) for the SPS version of the test, shows that the instrument is positively correlated with other, similar measures. Key scores from the SPS were compared with results of the earlier SPS-6 as well as other, well established productivity measurements such as the SF-36; results were shown to match expectations. Also, such tests as the SF-36 and others (as described in ‘The Gold Book’ by Lynch & Riedel, 2001) were included in the earlier developments of the SAHAPS and SPS-32 versions of the Stanford Presenteeism Scales. (Other tests in ‘The Gold Book’ are: Endicott Work Productivity Scale; Health and Labor Questionnaire; MacArthur Health and Performance Questionnaire; Work Limitations Questionnaire; and Work Productivity and Activity Impairment Questionnaire.)

Discriminant validity is established by SPS-6 scores correlating positively with job satisfaction and negatively with job stress, but without a strong degree of magnitude (Koopman et al. 2002). Low correlation is interpreted as indicating discriminant validity, as the SPS-6 differs from other, dissimilar measures- or, presenteeism as assessed by the SPS-6 can be distinguished from the related constructs of job satisfaction and stress.

Criterion Validity

SPS-6 scores were lower, meaning reduced capacity to perform while distracted, for employees who reported having some sort of distractor, and higher for those with none (Koopman et al., 2002); this indicates that the construct of presenteeism performs

as would reasonably be expected with regard to another variable. The variable of ‘work-related’ or ‘non-work-related disability’ as reported in the Koopman et al. (2002) study, is a meaningful criterion by which to assess the construct of presenteeism.

Concurrent validity, or correlation between the construct being validated and another, dependent variable, was established in the Koopman et al. (2002) study as indicating a level of agreement with the SPS-32: similar results were obtained for presenteeism scores between the two tests. Spearman’s rank-order correlation coefficients were computed to determine how well the SPS-6 captured the assessment made by the SPS-32. Also, the Turpin et al. (2004) study found concurrent validity between the SPS and another, well-established test. Work Limitations Questionnaire data were compared to SPS data and found to be correlated, with a Pearson’s rating of .50.

Predictive validity, or ability of the Stanford tests to indicate future values of dependent variables from scores obtained in the present, has not been established. Similarly, the case for external validity might be considered weak at the present time. Koopman et al. (2002) did in fact reveal that the scale has “fairly generalizable value,” but external validity or generalizability of test results to larger populations has not been established. However, given that the SPS-6 and the other Stanford tests have been shown to have excellent psychometric characteristics and have become a part of the ongoing body of Health and Productivity research, it seems likely that the SPS-6 is valid/reliable.

Data Analysis

All data was entered into the SPSS statistical software program. Analyses were conducted with this software, as appropriate for each research question. Data was

entered including categories by participants' gender, work experience years, job-role positions, and nature of distractor, along with all replies to the SPS-6 questions.

T-tests and Analysis of Variance (ANOVA) were the predominant techniques employed in this study. First, the mean score of all SPS-6 tests was calculated to determine if this value concurred with previously established descriptive statistics; also, comparisons were made to normative data identified in other studies (Koopman et al., 2002; Turpin et al., 2004; Collins et al., 2005).

It seemed possible that two separate SPS-6 scores would have to be calculated, as the test measures two dimensions of presenteeism: completing work and avoiding distraction, but this process was discarded. While it might seem that Multivariate Analysis of Variance, or MANOVA could be used to measure the six presenteeism behaviors as dependent variables in relation to the independent variables of gender etc., this technique was not the appropriate one in this case: the six behaviors are really measuring these two dimensions, as explained, and score is an outcome variable.

T-tests could be used to measure presenteeism scores by each dependent variable, separately for completing work (outcome) and avoiding distraction (process). T-tests were used to compare mean SPS-6 total scores with respondents' reporting of a physical versus a psycho-emotional distractor. Finally, T-tests were used to compare means of each group of graduate students by curriculum, in comparing the mean of each group to the mean of total SPS-S scores for the entire study population.

ANOVA was used to make comparisons between the means of more than two groups. For example, ANOVA can be used to test for indications of main effects for gender, work-years, job-role, and nature of distractor. As main effects presented,

or as ANOVA tests of the independent variables showed significance at the .05 level, *F*-tests were then run to determine what specific dependent variable led to the effect.

The Scheffe procedure could be used as a follow-up to ANOVA, to identify and assess significant differences between group means. Spearman Rank Order Correlation could be used to examine possible correlations between factors such as whether one gender tests higher for presenteeism in some groups by academic department. The Spearman rho is the appropriate technique for nonmetric, ordinally measured dependent variables. The Tukey technique conducted all possible pairwise comparisons, with some elevation in possibility of Type I error; the Dunnett procedure was used to compare hospitality students to all other groups with less possibility of Type I error.

It was possible that regression analysis might be conducted. Regression analyses would be used to estimate the impact of certain factors on capacity to perform. Such factors would include the demographic qualifiers, or gender etc., and most notably, the last question of physical versus psychological or emotional distractor. SPS-6 scores would be used as the dependent variable in these analyses. Such analysis might even contribute to the matter of whether an individual's SPS-6 score could be interpreted as a predictor of that individual's ability to perform work while distracted.

Existing research seeks to quantify productivity losses attributable to reduction in presenteeism and interpret that data into dollar amounts, whereas the current project seeks to investigate the use of the SPS-6 as a measure of an inherent characteristic. Therefore, it should be noted that each of the techniques employed has been chosen in accordance with methods used by previous studies to develop the Stanford tests.

Normative Baseline

A ‘normative baseline’ of data regarding the SPS-6 could be useful, in order that one might have some idea what to expect for results from SPS-6 tests. The following table is drawn directly from information in the Koopman et al. (2002) report, given as mean differences in scores by demographic characteristics. It is interesting and relevant to note that of all categories, job-type was the only one to show significant differences.

One-way ANOVA or t-tests were used with SPS-6 scores as the dependent variable and demographic characteristics as inputs. As is done in the current study, continuous variables were ‘segmented’ into categories. Within the context of the Koopman et al. project, these statistical procedures were conducted after item reduction from the earlier SPS-32, in the process of testing reliability and validity of the new, six-item scale. In this phase of testing, the Stanford team used 164 surveys completed by employees of San Mateo County in California; this was the third of three pilot tests run.

A subsequent study (Turpin et al., 2004) found some significant normative differences in Work Impairment Scores, the main focus of the 13-item SPS scale. For example, physical discomfort (arthritis/joint pain) had a greater effect (in terms of reduced productivity or greater impairment to presenteeism) for production-based workers than for knowledge-based. Also, a main effect was revealed for gender, with men reporting “slightly less impaired presenteeism” than women, and a main effect was shown for age: older employees trended toward less impairment.

The current study examines such questions as the Turpin et al. report, but returns to the 6-item scale for analysis. Table 3.1 in the appendix is presented for use as a ‘normative baseline’ for results of the Koopman et al. report, regarding the SPS-6.

Summary

This chapter presented the research methods used in this study. After an introduction, the first section of the chapter offered a discussion of the methods and the design of the study, explaining why these are appropriate and how they would accomplish the stated goals and objectives. The need for quantitative methods was established, as was the appropriateness of a descriptive design. Also discussed was the suitability of and need for (as well as convenience in procurement of) primary data.

The second section of this chapter described the sample population for the study, and established how it is that University of Massachusetts master's students are appropriate for this research. Research procedures and data collection methods were explained, and the advantage of the 'personal touch' was put forth. Survey instrument and data type were explained in this section, as well as reliability of the Stanford SPS-6.

The third section of this chapter established the validity of the SPS-6 instrument. Internal and external validity were addressed, as well as content, construct, and criterion validity; also, concurrent, convergent and discriminant validity were discussed. These concepts were applied to both the Stanford tests and the present research project. Also, it was mentioned that predictive validity and generalizability, while not directly associated with the study, might be seen as emerging areas of increasing interest for further research.

After a brief discussion of a baseline, the final section of this chapter presented the methods used for data analysis. Two-sample T-tests and one-way ANOVA were indicated to be the best methods for this study, with regression and other procedures as follow-up. How these techniques were to be used and why they are appropriate was also explained.

CHAPTER 4

RESULTS

The purpose of this study is to ascertain whether differences exist in attribute presenteeism among master's students from different academic departments at the University of Massachusetts in Amherst. The study also investigates possible differences in the characteristic between genders and between individuals with different lengths and levels of work experience, and between those reporting physical versus psycho-emotional sources of distraction. These questions are addressed in the current chapter.

A total of 173 surveys were completed, in eight groups by major; 139 were used for analyses. Four respondents were undergraduates, twelve were doctoral students, and four did not provide answers to this qualifying question. Of the remaining 153 master's students, one group of twelve was discarded as 'tainted,' explained below, and two more did not provide answers to the SPS-6 portion of the survey. The power of this test to detect a medium-size effect was estimated to be 63% using G*Power software.

Five groups were created by collapsing majors by school. HTM and MBA majors were combined in the School of Management or SOM group, English and History were combined in Humanities (HUM), Communication Disorders and Public Health are majors within the School of Public Health (PUB), the College of Science and Mathematics (S&M) is represented by a Computer Science class, and a class in Regional Planning represents the College of Natural Resources and the Environment (NRE). Another NRE class in Landscape Architecture was discarded, as one participant questioned a survey item and group discussion ensued, thus 'corrupting' the sample. Descriptive statistics for these five groups are presented in Table 4.1

Research Questions

Omnibus F-Test

An initial one-way ANOVA was computed on SPS-6 scores by condensed major groups (“Maj2”); that is, Score was the dependent or output variable and Maj2 was the predictor or input variable. The result was a significant test for differences in means: $F(4, 138) = 2.80$; $p = .028$. As predicted, and in keeping with previous research by the instrument’s creators (Koopman et al., 2002), differences exist in presenteeism scores between groups of graduate students by curriculum as exemplars of job-type, such that some career-choice groups score higher on the SPS-6, indicating a higher capacity to perform while distracted, than other groups.

Follow-Up

The Tukey procedure was utilized as a follow-up to the omnibus test, in order to perform all possible pairwise comparisons with minimal elevation in Type I error rate. While significance at the .05 level was indicated for only one comparison, significance would have been noted at the .10 level for two comparisons. The group scoring highest on the SPS-6 was Science and Math (“S&M”) with a mean score of 23.18; the lowest-scoring group was Public Health (“PUB”), with a mean score of 19.29. This difference of 3.89 was shown to be just significant at the .05 level ($p = .05$). Also, with a mean score of 21.73, the Humanities (“HUM”) group shows a difference approaching significance (2.44) from PUB ($p = .099$) at the .10 level. However, a slightly larger mean difference, that of 2.54 for Natural Resources and Environment (NRE; mean score 21.83), was not significant at any level.

Gender

One-way ANOVA was used to test for a significant difference in gender.

Of the 139 responses, 79 were from females, coded “0,” and 60 were from males, coded “1.” Males scored higher than females on the SPS-6: $F(1, 138) = 6.22; p = .014$. Mean scores for males and females were 21.98 ($SD = 4.17$) and 20.22 ($SD = 4.12$) respectively. Thus, a higher capacity to maintain performance while distracted was reported by males.

Length of Work Experience

One-way ANOVA yielded no significant results for length of work experience in three groups. In other words, no significant differences exist for respondents with little or no work experience (less than one year), moderate work experience (one to five years), and greater work experience (more than five years). However, a result approaching significance at the .05 level was obtained when the distinction between lengths of work experience is restricted to little or none (< 1 year) and some or much (1-5 and > 5 years): $F(1, 138) = 3.43; p = .066$. Means were 20.18 ($SD = 4.38; n = 56$) for the first group and 21.52 ($SD = 4.04; n = 83$) for the second; and this difference is significant at the .10 level.

Levels of Work Experience

No significant differences existed in presenteeism behaviors between respondents with different levels of work experience: $F(2, 132) = .215; p = .81$. Three groups were described: worker/laborer ($n = 88$); supervisor/hourly wage ($n = 27$) and manager ($n = 18$). Means for these groups were 20.80 ($SD = 4.24$), 21.41 ($SD = 4.44$) and 21.06 ($SD = 4.32$). Collapsing of groups as with the previous question yielded no significance. So, there is no evidence that those with varying levels of work experience have any more or less capacity to perform while distracted.

Nature of Distractor

No significant differences in presenteeism score exist at the .05 level between those reporting a physical source of distraction (illness, injury, chronic pain) and those with a psycho-emotional distractor (depression, anxiety, family or other concerns): $F(1, 133) = .06; p = .81$. The difference in means for these two groups is only .23. Mean scores were 20.73 ($SD = 3.56$) for physical distractor and 20.96 ($SD = 4.29$) for psycho-emotional. However, 111 participants reported psycho-emotional distractors, whereas only 22 indicated physical. This is in keeping with previous research (Pelletier & Koopman, 2003) and is discussed further in the next chapter of this report.

Presenteeism as a Function of Distractor and Severity

Over 80% of respondents (111 of 133, or 83.5%) reported a psycho-emotional rather than physical distractor. One-way ANOVA indicated no significant differences in these two groups: $F(1, 132) = .42; p = .52$. In other words, similar levels of severity or discomfort were shown for the two types of distractor- response was as strong for psycho-emotional as for physical distractors. Means were 4.95 ($SD = 2.32$) for physical distractor and 4.62 ($SD = 2.22$) for psycho-emotional.

Regression was used to ascertain whether presenteeism might be associated with severity of distraction differently for physical versus psycho-emotional distractor. An analysis was conducted using the dichotomous predictor, nature of distractor (coded 0 for physical and 1 for psycho-emotional), and the continuous predictor, self-perceived severity of discomfort, and an interaction term, with presenteeism score as the outcome. The mean for severity was 4.65 with a standard deviation of 2.26; severity was centered. A main effect was shown for severity with psycho-emotional distractor: $b = -.77; p < .01$.

The relationship between severity and presenteeism did not differ significantly for psycho-emotional versus physical distractor, as the interaction effect was not significant ($p = .39$). Neither did regression results show a significant difference in presenteeism as a function of distractor type ($p = .95$). In regard to the relationship between severity and presenteeism, severity was correlated with score for the entire sample ($r = -.40$; $p < .01$) and for psycho-emotional distractor ($r = -.41$; $p < .01$) but not for physical distractor ($r = -.27$; $p = .22$). So, for those reporting psycho-emotional sources of distraction, severity was a predictor for presenteeism.

Summary

This chapter presented results of statistical analysis according to the research questions of the study. It was revealed that presenteeism scores differed by academic major, that scores differed by gender, and that results can differ by length of work experience; level of work experience did not show differences. A notable majority reported one type of distractor, and for these participants severity predicted outcome. Discussion of these findings, including connections to previous research and implications for the hospitality industry, is presented in the next chapter.

CHAPTER 5

DISCUSSION

In the previous chapter, findings were revealed that might be of interest to professionals in hospitality and other fields. Certain of these findings are in line with previous research (Collins et al., 2000; Koopman et al., 2002; Pelletier & Koopman, 2003; Turpin et al., 2004), and some might offer unexpected indications. The suggestion that the SPS-6 could be used as an assessment tool in selecting workers for the hospitality industry might emerge from an appraisal of the results of statistical analysis, and other ramifications of the project are discussed in the current chapter as well. Research questions are addressed first, then limitations are discussed, and finally, possible areas of future research are offered for consideration.

Research Questions

The basic research questions of this study are addressed in the following discussion. First, overall differences are examined, then issues of gender, work experience (length and level), and nature of distractor are considered.

Overall Differences

An initial one-way ANOVA was computed on SPS-6 scores by condensed major groups. With score as the dependent or output variable and major as the predictor or input variable, the result was a significant test for differences in means: $F(4, 138) = 2.80$; $p = .028$. As predicted, and in keeping with previous research by Koopman et al. (2002), differences exist in presenteeism scores between groups of graduate students by curriculum as exemplars of job-type such that some groups score higher, indicating a greater capacity to perform while distracted, than other groups.

Groups by Academic Major

Whether career choice or job-type is a reliable indicator of personality profile is a discussion that lies well outside the scope of this project. However, proceeding with such a supposition allows for the prospect that greater capacity for multitasking or performing while distracted, or presenteeism, is shown in some ‘types’ as represented by academic major in this study. Some career-choice or academic major groups scored higher on the SPS-6 than others in this study; indeed, previous research by Koopman et al. (2002) found job-type to be the *only* demographic characteristic to show such differences.

In this study, differences in mean SPS-6 scores were found between groups of graduate students overall, with further indications of differences between particular groups being evidenced in follow-up analysis. The implication of this limited analysis is that more testing might well lead to additional information: with greater power inherent in a more wide-ranging survey (and greater number of participants), such results could be expected to at least replicate and quite likely increase. Similar findings, and more of such results, would lend strength to the claim that the concept of presenteeism can almost be considered a personality trait, as differences are found between different groups of participants by categories of job-choice. Therefore, it seems apparent that more research of the sort demonstrated in this project would be in order. One example of a similar, complementary project might be Cornell’s Job Compatibility Index (Carroll & Sturman, 2009) whereby a worker’s skill set is compared to the requirements of a job in hospitality and scored so that an assessment can be made regarding compatibility.

Gender

One common question to be answered in research such as this is whether males and females differ in responses to dimensions measured. By way of ANOVA analysis, an indication of a main effect was detected for gender and score, with males evidencing less impairment in presenteeism (or greater capacity to perform) than females; the difference in means was 1.76. Turpin et al. (2004) suggested that a somewhat smaller difference of 0.7 was, “although statistically significant... small and not meaningful.” Similarly, the greater difference revealed in the current study is of any consequence may not be of great importance. It is possible that factors attributable to upbringing and culture would cultivate the quality of presenteeism in American males (or discourage it in females). For example, a Swedish study (Aronsson, Gustaffson & Dallner, 2000) found higher rates of sickness presenteeism, or incidence of working with illness, among women than men, but did not comment on capacity or ability to perform.

Work Experience – Length

Slight significance ($p = .066$) was shown when length of work experience was grouped in two categories as ‘little or none’ and ‘some or much,’ such that greater presenteeism was evidenced by those with more work experience. Many studies (Aronsson et al., 2000; Koopman et al., 2002; Turpin et al., 2004) included questions about participants’ age; it was presumed in the current survey that respondents, all master’s students, would be homogenous in this regard. However, length of work experience would not necessarily be the same for all individuals. Indeed, findings were in keeping with other studies in that greater presenteeism (capacity) was indicated in older workers (Collins et al., 2005).

Work Experience – Level

It was surmised that higher hierarchal workforce levels would possess greater capacity to perform while distracted, but no evidence emerged to support this thinking. No significant differences existed in presenteeism behaviors between respondents with different levels of work experience: $F(2, 132) = .215; p = .81$. Self-reported workers, supervisors and managers all showed similar levels of presenteeism, even when groups were collapsed as ‘lower’ versus ‘higher’ levels.

Nature of Distractor

In the ANOVA analysis, no significant differences in means were detected for those reporting a physical versus a psycho-emotional distractor, but the most striking statistic from this portion of the study is simply that an overwhelming majority of participants (111 out of 133) reported the latter source of distraction. As previously stated, this coincides with findings by the creators of the SPS-6. In the eighteen months between the original publication of the Stanford instrument (Koopman et al., 2002) and subsequent discussion of it (Pelletier & Koopman, 2003), the researchers discovered that the interfering condition could “also” be psychological, as the original intent had been to measure presenteeism resulting from physical conditions (Pelletier & Koopman, 2003). During developmental testing, it became apparent that respondents sensed the connection to psychological issues, writing in depression most frequently in an open survey item, and the research team consequently acknowledged this connection. In many other studies, depression has been the principal source of distraction (Adler et al., 2006; Kessler et al., 2006; Sanderson et al., 2006). So, while the prevalence and relevance of depression may have come as a surprise to the original researchers (Koopman et al., 2002;

Pelletier & Koopman, 2003), as they were focused on physical illness (or possibly company issues such as downsizing), at this point in time it becomes obvious that the locus of distraction is at least as commonly internal to the individual's psycho-emotional makeup as it is externally imposed by circumstances or physical factors.

Severity of Response

Similar levels of severity or self-perceived 'degree' of discomfort were demonstrated for both types of distractor. This means that neither source of distraction was 'stronger' than the other. It might have been supposed that a physical problem would weigh more heavily on one's mind, resulting in reduced effectiveness or capacity, or that a psychological issue would lead to greater distraction; but it was shown that participants' response to severity of discomfort is as strong for one source as for the other.

Evidence of a relationship between severity and presenteeism score for those with psycho-emotional distractors, but not with physical distractors, was found with regression analysis. In other words, when the self-reported source of distraction was psycho-emotional, presenteeism score tended toward lower values, or was negatively affected ($p < .01$), but when the source was of a physical nature, no such effect was demonstrated. This suggests that depression or similar issues can lead to reduced productivity.

Similarly, correlations were found such that an increase in self-perceived severity could be associated with a reduction in capacity to perform when the source of distraction was psycho-emotional, as negative correlations were observed overall ($r = -.40$; $p < .01$) and in the case of psycho-emotional distractor ($r = -.41$; $p < .01$), but not for physical distractor ($r = -.27$; $p = .22$). This further demonstrates that depression and other such

factors can lead to a lesser ability to perform, as has been established by other researchers (Adler et al., 2006; Kessler et al., 2006; Sanderson et al., 2006).

Limitations

Three limitations of this study are chief amongst the possible concerns. Discussed in this section are the matters of self-reporting of data and sample issues, including the possible duplication of participants.

Self-report

The primary area of concern is that all data is self-reported. Survey answers are limited to participants' perceptions of their ability to 'handle' stress or distraction and maintain performance at work. As with all studies in the area of presenteeism and workplace wellness, it is impossible to obtain objective data. The most common example of the opposite effect is with absenteeism, where data are readily available and objective. Workers simply *are* at work, or not, and such data are readily compiled and manipulated. Conversely, presenteeism deals with individuals' understanding of their ability to perform, having made the choice to show up for work, and the information can be obtained only by asking for participants' perceptions on the matter. So the issue of whether or not an individual's perception of ability or capacity is accurate remains purely subjective and cannot be measured or proven by external, objective standards- at least until enough data have been collected and compiled in future research.

Sample Issues

Sample issues are present in this study. First, the sample for this research was strictly academics or graduate students. Whether results would be generalizable to an actual workforce remains a matter for further research. It was surmised that this group

was career-minded, as it consisted of master's students who were presumably aiming for work within the quite foreseeable future (i.e. a year or so hence), as has been discussed at length previously (see Chapters 1 to 3).

Another concern is the size of the sample. A larger number (n) may likely have yielded more reliable results; however, it was asserted that the population was of sufficient size to generate adequate results for this study. Also, a greater variety of groups or academic majors might have been desirable. Time constraints in terms of the academic semester system and schedule management were limiting factors in this regard. For example, the study could have been extended into another semester and another round of surveys completed, but the difficulty would have been an increase in the likely duplication of respondents. Or, as has been suggested by one strategy specialist in hospitality academia, the major impact of changes that happen over time could distort the data later collected- behaviors may well have changed between Spring and Fall 2008, as the economic environment changed from one of greater employment to an atmosphere of more prevalent layoffs and concerns about job security (C. Roberts, personal, Dec. 2008).

Furthermore, other departments might have been included if an on-line component had been added to the survey dispensation, but this would have represented a conspicuous difference in the administration of the instrument and so introduced possible biases or other issues. Online students might be of disparate age groups, whereas master's students at the University are of mostly similar ages; online students might be more likely to be full-time workers taking only a course or two, while the group sample were all full-time graduate students, assumed to be less than fully employed; and online

students might be enrolled in any of a number of curricula (or none at all), thus losing the advantage (and violating the assumption) of gathering data from similar groups by major.

On the matter of other departments: it is regrettable that Nursing students could not be included, as that field is most similar to Hospitality in terms of presenteeism and other considerations- stress, working conditions, etc. (Aronsson et al., 2000; Pilette, 2005; Loh & Hendrie, 2006). As there were no “brick-and-mortar” classroom meetings in the School of Nursing, on-line would have been the only available means to administer a survey. Presentation of the survey had been in class and in person for all other groups; this guaranteed a nearly 100% response rate. Administration in the Nursing department could only promise to allow the on-line submittal of surveys to students, and only after completing Institutional Review Board procedures for that particular department (as had already been done for the School of Management), so a large investment of time was required for a potentially minimal return in terms of survey response rate. The aforementioned principle of schedule management became a prevailing consideration in this instance, along with the difference in procedure to circulate the survey instrument which would have made for an entirely different situation than classroom administration.

Finally, it must be said that no measures were taken to ensure that participants would not be duplicated in the various classes from which the information was obtained. It was assumed by the researcher that the majors or departments were dissimilar enough that any likelihood of having a student in more than one surveyed class was extremely low. While no evidenced emerged which would have suggested that such duplication had occurred, the fact is that the possibility does exist. It is further surmised that an isolated duplicant or two would not contaminate or devalue the results of the study.

Future Research

Several areas of interest for future research have emerged from this study. Chief among these are the matter of longitudinal studies and the possibility of changes with treatment. Also of note are the ideas of mechanism and prediction, or how presenteeism works and whether presenteeism score can be used to predict behavior.

Longitudinal Studies

Through the 1990s, longitudinal studies dealing with presenteeism were rare. In the last decade or so, more research has been done in this manner (Burton et al., 2006; Collins et al., 2005; Druss et al., 2001; Greenberg et al., 2003; Sanderson et al., 2006). Changes over time would likely be interesting to observe, as relationships such as increased presenteeism (capacity) with age might be revealed, or changes with treatment for depression or other health issues. The most obvious area to benefit from such would be the matter of age or, in this study, length of work experience. Level of presenteeism could be tracked to ascertain whether older or more experienced individuals were more able to cope with distraction. For example, if a worker changed jobs, his or her aptitude for handling stress might be seen to decrease at first and then improve over time.

Also, if hospitality or other workers were screened at intake and then re-interviewed at intervals, some change in presenteeism score might be observed. An increase in presenteeism would presumably result from increased exposure to and familiarity with the tasks, duties and responsibilities; conversely, boredom could follow mastery. A worker might be ready for greater challenge but be blocked from upward mobility. Such data might well be used to demonstrate some consistency of pattern which would be useful to researchers.

Changes with Treatment

Like changes over time, it might be interesting to note and track changes in ability to work while distracted which would occur following treatment for the various psychological or emotional causes of distraction, most notably depression (Sullivan, 2004; Wang, 2004; Whitehouse, 2005; Sanderson et al., 2006). Individuals who enter therapy and begin pharmacological treatment or otherwise experience a new sense of well-being (or the opposite) would surely present information for an interesting study, as patterns might emerge which would suggest implications. A client taking an antidepressant might experience greater capacity to perform while distracted; or, conversely, such a one might 'lose the edge' and experience a decrease. And a participant new to the practice of meditation, or one learning to live without using drugs and alcohol, might undergo similar changes in capacity. Researchers and, in turn, hospitality professionals would likely benefit from the application of rigorous research.

Mechanisms and Prediction

Thus far, little progress has been achieved in understanding the "mechanism" of presenteeism. It might therefore be advisable to establish research into how the quality "works," or what connections might be observable between various input factors and presenteeism score as outcome.

Similarly, an interesting and useful application of research such as this study might be the achievement of some degree of predictability. Especially in the case of the new hire, a high presenteeism score could suggest suitability to the dynamic and multi-tasking hospitality field. However, whether presenteeism score could predict other qualities endemic to the hospitality career-choice would remain to be determined.

Summary

The current chapter offered discussion of the findings revealed previously. The most striking or, possibly, useful trend to be revealed by statistical analysis was that personality 'type' delineated by career choice (evidenced in academic major) can be associated with presenteeism, or capacity to perform work while distracted. Other findings discussed included gender differences, with males showing a greater capacity than females; length and level of work experience, with some indication of higher presenteeism with greater age; and evidence of a relationship between psycho-emotional (as opposed to physical) distractor and presenteeism score, with depression being the most frequent source of distraction.

Limitations were also discussed in this chapter. The possible shortcoming of self-reported data was addressed, as were sample issues- namely, study population, sample size, and possible duplication of participants. Finally, areas of interest for possible future research were presented, including the idea that presenteeism score could be used to identify workers who would likely prove fitting for the hospitality field.

By way of this research, the premise of this treatise manifests. It is apparent that presenteeism can be a quantifiable personality trait, associated with career-choice. This is valuable for the hospitality industry in that it can be used to test for suitable workers.

APPENDIX A
QUESTIONNAIRE

This questionnaire has been designed by a graduate student here at UMass Amherst as part of a Master's Thesis. A few preliminary questions will provide necessary information, then the Stanford SPS-6 will ask just six questions about how you perceive your ability to maintain performance when you are distracted.

It is important to note that no credit is associated with this.

The survey should take only a few minutes to complete.

Your participation is greatly appreciated.

THANK YOU!

- 1a. What is your major/department? _____
- 1b. What is your level of study? Undergrad Master's Doctoral
- 2a. What is the length of your work experience before returning to school?
 < 1 year 1 – 5 years > 5 years
- 2b. At what 'level' of job-role was most of your work experience?
 Worker/Laborer Supervisor (hourly wage) Manager
- 3a. What would you say causes you the most distraction in your ability to perform work? Please indicate whether this distractor is:
 Physical (illness or injury or chronic pain)
 Psycho-emotional (depression, anxiety, family or other concerns)
- 3b. Please rate, on a scale of 1 to 10, the severity of discomfort for this condition:

 least 1 2 3 4 5 6 7 8 9 10 *most*
- 3c. Also, please feel free to indicate what you think this distractor usually is:

- 4a. Finally, please indicate your gender: M F

The questions on the following page ask about your experience at work. This might be vocational or academic work, whichever seems right for you.

You may rest assured that no breach in confidentiality will be made; no connection will be maintained between your answers and your identity.

APPENDIX B

INSTRUMENT

Stanford Presenteeism Scale+
(SPS-6)

Directions: Please describe your work experiences **in the past month**. These experiences may be affected by many environmental as well as personal factors, and may change from time to time. For each of the following statements, please check one of the following responses to show your agreement or disagreement with this statement in describing *your* work experiences **in the past month**.

Please use the following scale:

- . . . I strongly disagree with the statement
- . . . I somewhat disagree with the statement
- . . . I am uncertain about my agreement with the statement
- . . . I somewhat agree with the statement
- . . . I strongly agree with the statement

	Strongly disagree	Somewhat disagree	Uncertain	Somewhat agree	Strongly agree
1. Because of my (health problem)*, the stresses of my job were much harder to handle.	()	()	()	()	()
2. Despite having my (health problem)*, I was able to finish hard tasks in my work.	()	()	()	()	()
3. My (health problem)* distracted me from taking pleasure in my work.	()	()	()	()	()
4. I felt hopeless about finishing certain work tasks, due to my (health problem)*.	()	()	()	()	()
5. At work, I was able to focus on achieving my goals despite my (health problem)*.	()	()	()	()	()
6. Despite having my (health problem)*, I felt energetic enough to complete all my work.	()	()	()	()	()

* Note that the words 'back pain,' 'cardiovascular problem,' 'illness,' 'stomach problem,' or other similar descriptors can be substituted for the words 'health problem' in any of these items.

+ The Stanford Presenteeism Scale (SPS-6; 2001 version) is jointly owned by Merck & Co., Inc., and Stanford University School of Medicine.

APPENDIX C

TABLES AND FIGURES

Table 2.1

Themes

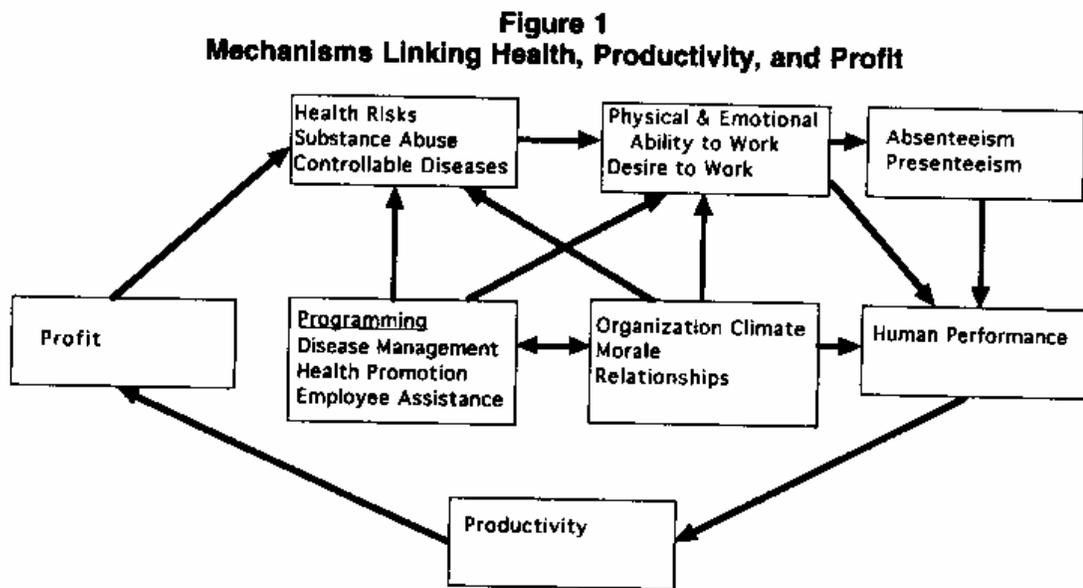
<u>DEFINITION</u>	<u>COST ESTS</u>	<u>DEPRESSION</u>	<u>SCREENING</u>
Canfield & Soash, 1955	Canfield & Soash, 1955	Canfield & Soash, 1955	Covner, 1950
Uris, 1955	Greenberg et al. 1993	Uris, 1955	Canfield & Soash, 1955
Smith, 1970	Edington et al., 1997	Greenberg et al., 1993	Smith, 1970
Burton et al., 1999	Goetzel HERO, 1998	Goetzel HERO, 1998	Burton et al., 1999
Wrate, 1999	Burton et al., 1999	Burton et al, 1999	Lerner, 1999
Aronsson, 2000	O'Donnell, 2000	Aronsson,2000	O'Donnell,2000
Druss et al., 2001	Goetzel HPM, 2001	Dewa & Lin, 2000	Druss et al., 2001
Gold Book, 2001	Lofland et al., 2001	Druss et al. 2001	Goetzel HPM, 2001
Koopman et al., 2002	Goetzel Bus. Case, 2002	Goetzel HPM, 2001	McCunney, 2001
Kumar,2003	Goetzel Top 10, 2003	McCunney, 2001	Gold Book, 2001
Pelletier & Koopman, 2003	Kumar,2003	Koopman et al., 2002	Koopman et al., 2002
Lang, 2004	Goetzel WPSI, 2003	Goetzel Bus. Case, 2002	Goetzel Bus. Case, 2002
Turpin, 2004	Greenberg 2003	Greenberg, 2003	Pell & Koop, 2003
Prasad, 2004	Pell & Koop, 2003	Pelletier & Koopman, 2003	Lerner, 2004
Chapman, 2005	Goetzel Cost Est., 2004	Lerner, 2004	Turpin,2004
Dew et al., 2005	Lang, 2004	Turpin, 2004	Ozminkowski, 2004
Pilette, 2005	Lerner, 2004	Sullivan, 2004	Lofland, 2004
Sanderson, 2006	Sullivan, 2004	Wang, 2004	Sullivan, 2004
Yamashita,2006	Wang, 2004	Chapman, 2005	Wang, 2004
	Chapman, 2005	Collins, 2005	Chapman, 2005
	Ozminkowski, 2004	Pilette, 2005	Collins, 2005
	Collins, 2005	Sullivan, 2005	Pilette, 2005
	Pilette, 2005	Whitehouse, 2005	Sullivan, 2005
	Sullivan, 2005	Goldman, 2006	Burton, 2006
	Whitehouse, 2005	Kessler, 2006	Goldman, 2006
	Burton, 2006	Sanderson, 2006	Loh & Hendrie, 2006
	Goldman, 2006		Sanderson, 2006
	Kessler, 2006		Goetzel, 2007
	Sanderson, 2006		

APPENDIX C

TABLES AND FIGURES

Figure 2.1

Schematic



Mechanisms Linking Health, Productivity and Profit
Michael O'Donnell, 2000

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Table 3.1

Baseline

MEAN SPS-6 SCORES BY DEMOGRAPHIC CHARACTERISTIC

Characteristic	Mean +/- SD	Test Statistic (df)
Gender		$t(161) = 0.30$
Men	23.0 +/- 3.9	
Women	22.9 +/- 4.2	
Age		$F(2, 159) = 1.60$
< 35 years	21.9 +/- 4.0	
35-50 yrs	23.5 +/- 4.3	
> 50 years	22.8 +/- 3.7	
Ethnicity		$F(4, 157) = 1.15$
Black/AfrAmer	22.4 +/- 5.7	
Asian American	23.4 +/- 4.0	
Hispanic/Latino	21.3 +/- 4.2	
White/EuroAmer	23.3 +/- 3.7	
"Other"	22.9 +/- 5.0	
Education		$F(4, 159) = 1.85$
High/Trade School	23.8 +/- 4.6	
Some College	21.6 +/- 4.7	
Bachelor's Degree	23.7 +/- 3.3	
Some Grad School	23.0 +/- 3.8	
Advanced Degree	23.3 +/- 3.5	
Marital Status		$F(2, 153) = 0.84$
Single	22.2 +/- 4.5	
Married or Similar	23.2 +/- 3.8	
Divorced	22.6 +/- 3.9	
Type of Job		$F(5, 159) = 2.32^*$ [* $p < 0.05$]
Service/Maint.	21.0 +/- 3.7	
Clerk	21.8 +/- 4.5	
Protective Service	20.3 +/- 4.6	
Technician/Para	22.3 +/- 3.7	
Office/Admin/Pro.	23.6 +/- 3.5	
"Other"	24.4 +/- 4.3	

Source: Koopman et al. (2002).
Stanford presenteeism scale:
Health status and employee productivity.
Journal of Occupational and Environmental Medicine, 44

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Table 4.1
Descriptives

	N	Mean	Std. Deviation	Std. Error
SOM	45	21.09	3.83	.57
PUB	38	19.29	4.54	.74
HUM	33	21.73	3.67	.64
S&M	11	23.18	4.29	1.29
NRE	12	21.83	4.71	1.36
Total	139	20.98	4.22	.36

Table 4.1: Descriptive Statistics for SPS-6 Scores of Five Groups

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