EMPLOYER PERSPECTIVES ON STRESS INTERVENTION

AND RESILIENCE BUILDING: A QUALITATIVE STUDY

BY

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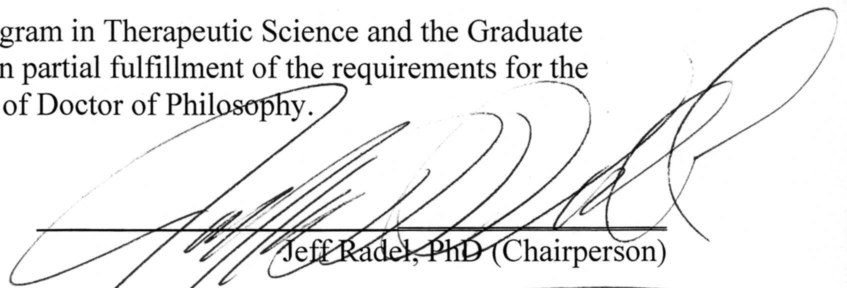
NANCY W. SPANGLER

Submitted to the graduate degree program in Therapeutic Science and the Graduate Faculty of the University of Kansas in partial fulfillment of the requirements for the degree of Doctor of Philosophy.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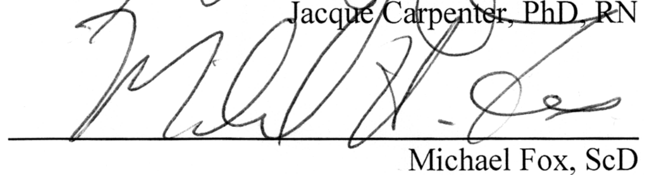
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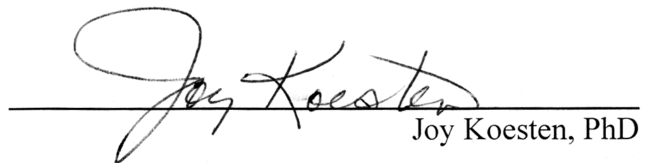
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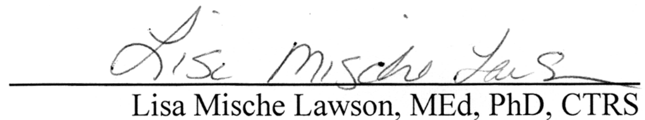
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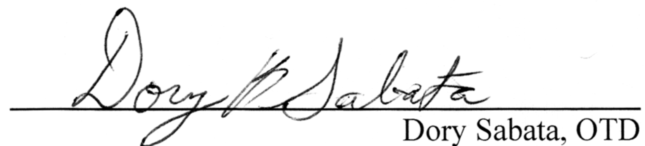
Dory Sabata, OTD

Date Defended: November 15, 2010

The Dissertation Committee for Nancy W. Spangler certifies that this is the approved version of the following dissertation:

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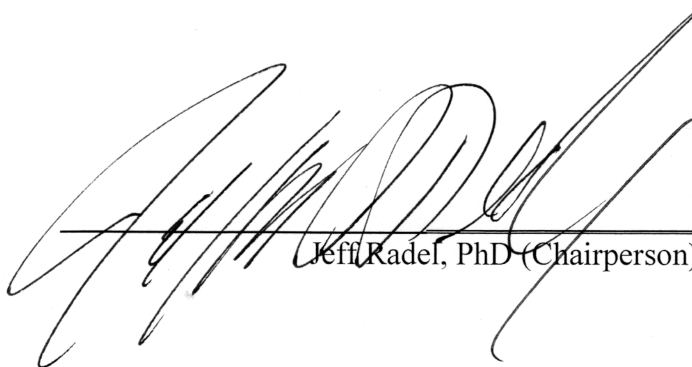

Jeff Radel, PhD (Chairperson)

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**Abstract**

This study sought to gain a deeper understanding of the types of benefits, programs, and organizational practices employers currently are providing to prevent distress among employees or to help employees become more resilient to adverse conditions. Forty-six employer representatives discussed the perceived strengths of their organizations' approaches during interviews and discussion groups. Grounded theory methodology was employed to sample and analyze these data. Based on patterns that emerged from the narratives of these participants, a model is proposed to explain three effective approaches used by employers in addressing stress in the workplace: 1) preventing stress/building resilience, 2) providing information, resources, and benefits to employees, and 3) intervening actively with troubled employees. Trust, both in relationships and in organizational structures, emerged as a core concept explaining effectiveness of these approaches. This model may be used to frame future strategies used by employers to support healthy engaged employees and to guide investigations into social and emotional aspects related to work.

**Acknowledgments**

Finishing a dissertation feels similar to climbing a mountain – looking back on where you have been makes you feel a little weary, but the view from the top is quite exhilarating and immensely satisfying. You also see there are other peaks left to master.

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Gratefully, I thank my family and friends for supporting me, ignoring my occasional vacant stares into the distance in the middle of conversations, and for asking once again, "Just what exactly IS Therapeutic Science?" Thank you for your love and patience through this long journey.

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## Introduction and Literature Review

Workers and workplaces have faced considerable challenges in the last several years, including a major economic downturn, natural and human-made disasters, and war. These demands are commonly and collectively called *stress.* The purpose of the current study was to gain deeper understanding of the types of benefits, programs, and organizational practices employers are currently providing either to prevent stress or to help employees cope with or become more resilient to adverse conditions.

Stress has been studied for decades, but terminology for the concept is not consistent. Cannon (1932), a physiologist, examined the way the body mobilizes physiologically for action or escape in response to a threat. He termed this the *fight-or-flight response.* Selye (1956), an endocrinologist, extended research on the body's generalized adaptive response to threats and demands. He was the first to acknowledge a distinction between a dissatisfying response to harmful stimuli, which he termed *distress*, and a euphoric effect of positive adaptation to demands, a state that he called *eustress.* Over time, the distinction between these two types of responses was lost in both the popular media and the scientific literature. The term *stress* has become a phrase used interchangeably to denote 1) the broad demands of modern life (which Selye termed *stressors*), 2) the physiological fight-or-flight stress response, and 3) a negative emotional state of distress.

Despite inconsistency in terminology, researchers in multiple disciplines, including physiology, psychology, neurobiology, and cognitive sciences, have explored issues related to perceptions about stressors, the neurochemical and hormonal reactions that make up the stress response, the role of emotions, and a range of effects on physical and mental health related to distress. Under long-term distress without rest or restorative opportunities, cells, organs, and

bodily systems become strained. Researchers have documented that distress contributes to increased incidence and/or complications of heart disease, cancer, pain, and the common cold (S. Cohen & Tyrrell, 1991; Lutgendorf, Sood, & Antoni, 2010; Scaer, 2007; Vale, 2005).

Stress also contributes to development of depression (Charney & Manji, 2004). Both stress and depression are associated strongly with higher medical costs for employers (Goetzel et al., 1998). As prevalence of depression increases, total health care costs also tend to increase (Loeppke et al., 2007). Mild depression particularly is costly, due to its high prevalence and high aggregate productivity loss (Allen, Hyworon, & Colombi, 2010).

Researchers have observed, however, that some individuals are far more resilient to adverse circumstances than others are, and that resilience to stressors is modifiable (Charney & Manji, 2004; Rutter, 2006). Use of the term varies but resilience generally describes the characteristics or capacities that enable individuals to bounce back from adversity and use available resources adaptively. Resilient individuals tend to have a positive outlook, are hopeful, view change as a challenge, and have secure emotional attachment to others. They are likely to have a sense of humor, are action-oriented with an internal locus of control, have a sense of personal competence, are able to express needs and engage support of others, and are able to self-soothe and manage emotions and impulses (Campbell-Sills, Cohan, & Stein, 2006; Charney & Manji, 2004; Connor & Davidson, 2003). Resilient individuals also appear to possess advantages in terms of reduced pain perception (Friborg, 2006).

Researchers in organizational and management sciences have studied distress in relation to adverse effects on workers and organizations. Two major theoretical models in organizational stress research are the Demand-Control model (Karasek, 1979) and the Effort-Reward Imbalance model (Siegrist, 1996). The Demand-Control model suggests work is distressing when an

individual has high job demands but inadequate decision-making authority (low control). Social support from one's supervisor and colleagues may play a moderating role (Karasek & Theorell, 1990). The Effort-Reward Imbalance model places emphasis on rewards rather than control of work, proposing that work is a contractual reciprocal exchange of rewards for individual effort.

A number of studies using prospective and cross-sectional designs have supported each model. Both models find job stress predictive of adverse health outcomes (including cardiovascular disease, anxiety, depression, and emotional exhaustion) as well as adverse work performance outcomes. The latter include regular absences from work (*absenteeism*) and decreased performance at work due to health conditions, termed *presenteeism* (Bonde, 2008; Lamontagne, Keegel, Louie, Ostry, & Landsbergis, 2007; Van Der Doef & Maes, 1999). These studies suggest that working conditions may be targeted effectively in strategies for changing organizational and work processes (Biron, Brun, Ivers, & Cooper, 2006).

Individual-focused intervention approaches are effective in individual level changes, such as self-reported stress levels, anxiety, depression, blood pressure, heart rate, or muscle contractions (Quick, Quick, Nelson, & Hurrell, 1997). Few studies using individual-focused interventions have evaluated the impact on organizational-level outcomes, such as absenteeism, turnover, disability, or work productivity. Those studies that have measured organizational-level outcomes have not found strong influences of individual-level interventions (Lamontagne, et al., 2007; Noblet & Lamontagne, 2006; Richardson & Rothstein, 2008).

Employers are concerned about workplace stress. A survey conducted by the Integrated Benefits Institute (2010) of workplace health and benefits professionals, representing 447 employers in the United States, found that 60% of workplaces were offering *stress reduction education* and intended to maintain resources at the same level. An additional 30% intended to

increase resources in stress reduction education. The nature of these resources, however, was not discussed explicitly.

In summary, many employers recognize the importance of addressing mental health and of providing benefits for earlier identification and treatment of stress and depression. Attempts to address stress, however, focus primarily on interventions for individuals. Preventive organizational approaches are not as well documented. The purpose of this study was to understand current approaches to workplace stress and resilience.

## Methods

This study used a grounded theory methodology for sampling and data analysis. Grounded theory is an inquiry process that generates systematic theoretical analysis based on emerging observations, comparison of data to data, and comparison of data to existing theories (Charmaz, 2000; Corbin & Strauss, 2008; Glaser & Strauss, 1967). A qualitative design was employed to gather narratives about the kinds of approaches workplace professionals find most valuable and to develop a model of effective practice for employers and researchers.

### Setting and Sample

The study protocol was designed to encourage collective discussion and reflection about workplace stress and resilience among employers, and was approved by the Institutional Review Board at the University of Kansas Medical Center prior to implementation. The researcher recruited a purposeful sample of workplace professionals through collaboration with the Mid-America Coalition on Health Care, the Disability Management Employer Coalition, the Employee Assistance Roundtable, the Partnership for Workplace Mental Health, and Blue Cross Blue Shield of Kansas City. These collaborating agencies believed their constituents represented employers who were likely to be *innovators* and *early adopters* of innovative approaches

(Rogers, 1995). The researcher recruited potential study participants through e-mail and/or phone follow-up, providing printed information in advance regarding the study's purpose, procedures, and privacy precautions. The participants were an intentional mix of professional roles. Study participants provided verbal informed consent.

**Discussions and Interviews**

Over a five-month period, the researcher conducted eight small group discussions (two in Kansas City, five in Minneapolis, and one by telephone) and 16 individual telephone interviews. In total, 46 individuals participated in the study. Discussions and interviews were semi-structured and lasted 60 to 90 minutes. The purpose as described to participants was to explore participant perceptions about their organization's approaches to addressing workplace stress and to building resilience, to learn what resources the participants valued and thought they needed in the future for addressing stress and resilience, and to understand the ways the participants collaborated with other professionals in their work.

Following grounded theory methodology, initial questions were open-ended, beginning with a question like, "What do you believe are your organization's greatest strengths in the way you prevent stress or help your employees with coping or resilience-building skills?" Discussion questions focused around participants' perceived strengths to allow solution-based frameworks to emerge. This follows tenets of positive organizational scholarship in seeking to understand the dynamics that enable potential positive outcomes in organizational systems (Cameron, Dutton, & Quinn, 2003).

The discussions were conversational in nature, allowing for reflection and interaction among participants. Probing questions were used to explore concepts as they emerged from the discussion and to clarify meaning. Probes included questions like, "Do you explicitly use the

terms stress and resilience in your programs and communication?" and "Could we explore a little more about how EAP and HR work together to help resolve employee-supervisor conflicts when someone is returning to work?" The researcher audio recorded the majority of discussion groups or interviews and transcribed the recordings as modified verbatim (omitting extraneous words) to ensure accurate portrayal of participants' narratives and to be able to reflect upon their meaning. Two discussion groups were offered as unrecorded sessions to allow full anonymity based on collaborating agencies' recommendations. During unrecorded discussions, a member of that group served as a scribe to summarize the discussion in written notes. Scribe reports were used to verify concepts, but did not contribute direct quotes to the analysis.

**Data Analysis**

The researcher employed a methodological spiral for data analysis (Glaser, 1978). The foundational procedures of grounded theory analysis (R. Jones & Noble, 2007) included concurrent collection, coding, and analysis of data; theoretical sampling; constant comparisons; category and property development; systematic coding; saturation; recording memos; and sorting.

Initial interview and focus group transcripts were coded line-by-line (open coding) to identify words and phrases used frequently in similar or contrasting contexts. In interviews and in focus groups, comments by each individual were considered as individual units of analysis, or incidents, for coding purposes. Words and phrases representing similar concepts were grouped together into categories. Using the constant comparative method (Glaser & Strauss, 1967), the researcher first systematically compared incident with incident and then compared incidents with properties of a category. Categories were modified through the analysis process as properties, dimensions, and relationships between concepts became apparent. Narratives were coded into six

main categories each with three to ten subcategories. Portions with multiple concepts received multiple codes.

As variables recurred consistently in the data, coding became selective and focused on core concepts and properties with explanatory power for the three emerging categories of employer approaches. For example, properties such as *transparent communications, emphasizing values and ethics,* and *supportive culture* were integrated under the category of Preventing Stress. Likewise, *process for referrals, interdisciplinary return-to-work planning,* and *establishing familiarity* were part of Actively Intervening. Data related to other categories, such as participant's perceptions about stress or future resources, were not included in the current analysis.

Interviews with additional individuals or previous participants occurred by telephone until the conceptual categories reached a level of saturation; in other words, a pattern of regularity and repetition occurred in the categories, no new properties or dimensions emerged, and ideas about the developing model-theory were consistent. Theoretical sampling and data collection ended at this point.

Theoretical coding (sorting ideas and hypotheses progressively generated in memos and comparing them to the data) was used to develop a theory and model around how these concepts are operating in effective approaches to workplace stress and resilience. A tentative core category of trusting relationships and organizational structures emerged through the analysis process. A core category within the coded data is one that has the greatest explanatory relevance in developing a coherent framework or theoretical model (Corbin & Strauss, 2008; Glaser & Strauss, 1967).

The concept of building trust in relationships and structures recurred regularly as a means to negotiate roles and order across the three categories of approaches that emerged. After a framework was compiled conceptualizing how employers were addressing stress and resilience, the emerging model was grounded in accord with other research by making comparisons to additional research literatures.

Additional sources that informed the analysis included information from websites of the organizations represented in this study and scope of practice statements for their professions. These additional data sources helped ensure a more comprehensive understanding about the participants' situations and encouraged deeper reflection on the data (Mays & Pope, 2000). Comparing participants' narratives along dimensions of the coding categories and the conditions in which various phenomena occurred also aided in discovery of patterns (commonalities and exceptions) in the employers' perceptions (Goulding, 2002). Memoing (Glaser & Strauss, 1967) encouraged a reflective progression during coding, to note consistencies and conflicts observed in the data as it accumulated, and to determine areas of additional questioning needed to saturate all of the categories. Memoing also helped in the process of discovering patterns and generating relationships between concepts in the analysis and theory development. Other methods included examining meaning behind frequently used words, words used in striking ways or with emotional emphasis, and diagramming to put the various conceptual categories together in an overall schema that includes micro and macro conditions (Corbin & Strauss, 2008).

The researcher's professional interdisciplinary experience in occupational therapy and population health management in the workplace influenced the research topic development and could be a potential source of bias. The researcher made a conscious effort, however, to focus on participants' narratives and to place previous literature reviews in the background allowing the

model to emerge from the data (Glaser, 1978). Steps taken to reduce bias and ensure quality and trustworthiness of the research are summarized in Table 1.

Table 1

*Steps Taken to Ensure Quality and Trustworthiness (Cohen & Crabtree, 2008)*

| | |
|---|---|
| Peer Review | Monthly discussions with faculty advisors regarding coding practices and analysis procedures to code collectively, compare impressions, and challenge the researcher's conclusions. This strategy was employed, rather than inter-rater reliability, to enhance conceptual sensitivity (Glaser, 1978). |
| Member Check | Follow-up interviews with eight participants by telephone to clarify meaning and initial impressions. |
| Triangulation | Participants recruited from multiple professional disciplines and kinds of workplaces. Review of multiple sources of data (narratives, website information, and professional scopes of practice). |
| Audit Trail | Written transcripts, narrative excerpts, and clear descriptions of sampling and analysis procedures reviewed by faculty advisors. |

## Results

The participant sample included 12 men and 34 women ranging from 27 to 62 years of age (mean age, 50). Participants had been with their current employer from 2 to 29 years (mean length of service, 12 years). The mean number of employees per organization was 31,800 employees (excluding two outliers at the extremes of the range of 350—120,000 employees). The participants represented organizations with a total of 1.3 million employees. Professional roles and the industries represented are summarized in Tables 2 and 3.

Three main approaches effective in addressing workplace stress and resilience emerged from the data. These are summarized in Figure 1 as: 1) *Preventing* distress and building resilience, 2) *Providing* information, resources, and benefits for employees, and 3) Actively *intervening* with troubled employees. Participants' perceptions about their organization's strengths in these areas are summarized in the following sections. Additional narratives are found in Appendix D.

Table 2

*Participant Characteristics*

| Variable | Number of Participants |
|---|---|
| Gender | |
| Men | 12 |
| Women | 34 |
| Total | 46 |
| | |
| Age | |
| 27- 40 | 6 |
| 41-50 | 8 |
| 51-62 | 21 |
| | |
| Professional Roles | |
| Benefits | 2 |
| Disability Management | 8 |
| Employee Assistance Program | 12 |
| Human Resources | 3 |
| Health Promotion | 5 |
| Occupational Health | 2 |
| Organizational Development | 1 |
| Multiple roles | 13 |
| | |
| Number of Years with Employer | |
| 1-10 | 20 |
| 11-20 | 12 |
| 21-29 | 6 |

Table 3

*Characteristics of Participants' Organizations*

| Variable | Number of Participants |
|---|---|
| Number of Employees | |
| 350 – 5,000 | 7 |
| 5,000 – 9,999 | 6 |
| 10,000 – 2,499 | 8 |
| 25,000 – 49,000 | 9 |
| 50,000 – 120,000 | 9 |
| (Total number of employees represented = 1,328,750) | |
| | |
| Percent Union Employees | |
| 0 | 18 |
| 3 – 10% | 10 |
| 11 – 50% | 8 |
| 95% | 1 |
| | |
| Industry | |
| Health care related | 9 |
| Manufacturing | 8 |
| Finance/Insurance | 6 |
| Information | 3 |
| Education | 2 |
| Utility | 2 |
| Professional/Scientific | 2 |
| Public Administration | 2 |
| Accommodations/Food | 1 |
| Retail | 1 |

| | |
|---|---|
| Arts/Entertainment/Recreation | 1 |
| Construction | 1 |
| Other services | 1 |
| Transportation | 1 |

(Total number of employers = 40)

## Preventing Distress and Building Resilience

Participants described several ways that their organization prevented distress or built resilience.

**Symbols and Guideposts.** A common perceived strength of participants was their organizations' commitment to values, ethics, or missions, which provided symbols and guideposts for employee behavior. Many participants were able to recite their core values or mission statements verbatim. Participants mentioned that their organization's ethics guidelines and grievance processes helped to reduce employee stress in instances where ethics were violated.

> One of the really remarkable things about the employer where I'm at now is that they incorporate how people treat each other, people's behavior, in their ethics requirements, and people are held accountable for treating each other well including how management treats the employees. So you don't see things I've seen in other organizations where people are getting yelled at by managers or they're not being treated fairly, because they could just pick up the ethics hotline and report it, and it gets investigated. . .We have *generations* of families there.

Among those participants who described mission, values, or ethics as strengths, a review of their organizations' public websites documented visible and precise information about related expectations or policies as a guide for employees and as a statement to the public. In some cases, employees had helped to construct examples of specific behaviors expected for treating other employees respectfully (for example, in the way employees speak to peers or clients, or in the ways they keep their workstations organized). One website mentioned building a thriving workplace culture as an expectation. While an in-depth discourse analysis of communications was not the purpose of this study, the words *trust, trustworthy, responsibility, value,* and *commitment* were terms prominent on websites both in reference to customers and to employees.

This held true for participants in organizations across varying industries, from health care to food service to manufacturing.

Organizational missions also were described as being helpful in reducing stress, by tying individual workers' roles to the larger purpose of the organization. Individual role clarity was enhanced through training, mentoring, and through performance review processes that encouraged frequent communications in multiple directions – supervisor to employee, employee to supervisor, and among workers and supervisors within work units.

Programs and practices that help employees understand how a current occupational role fits into a long-term career trajectory were seen as important for reducing distress.

> You should be in a role now as much by choice as possible. . . [but] the workplace is fluid, it's capricious, it can be quite unpredictable. . . It's good for you to have a narrative that's empowering, that makes sense of it and also puts [your career] in sequence – I'm doing this call center job now, and it's helping me learn something about the public, and it's got a regular schedule, and my kids are young, and in three years when they're all in grammar school, this is what I'm going to do next.

This participant remarked that other peers in this organization thought career training was risky, since employees may take their new talents and leave, but this person saw furthering career opportunities as a key responsibility of and beneficial to the organization.

**Workplace culture and practices.** The concept of a career trajectory tended to be common among participants from organizations with long-standing and paternalistic histories. A participant in one of these environments said the tradition of providing opportunities to fulfill career ambitions and aspirations was one of her company's greatest strengths. She felt this was helping that company to build a strong supportive culture "department by department," to win national awards, and to "recruit the best and the brightest."

On the other hand, paternalistic organizations also were described as having dominant power structures and organizational hierarchies that might be distressing – places filled with "arrogant individualistic old fuddy duddies, 55 year-old white men" [a comment delivered by a white man within that age group]. Furthermore, these hierarchies may limit career trajectories for those in organizations who manage health and wellness programs or employee assistance programs (EAPs). These program managers' skills are appreciated, "We are a place they can dump weird and crazy people." Yet their roles may not be valued in the same way as managers who oversee areas like operations or financial management, the areas that "own" programs focused on productivity and cost savings. "You've got some personalities in here that have got some pretty big ego needs that are running programs. So, all that together creates some sort of turf-ism."

There was discussion of the considerable changes occurring among all organizations, but participants suggested that change occurred more gradually in older, more established organizations or in organizations where original family members retained key leadership positions. Cultural symbols as simple as free lunches were mentioned by individuals from two separate organizations. One participant said the free lunch her family-owned employer still provides was a benefit she personally found to be stress reducing. Another participant mentioned the end of the traditional free lunch was part of what was lost when his company went public and became ". . . much more focused on productivity, much more focused on efficiency. It exists to make a significant profit, as opposed to make a profit and also be an environment that is nurturing and very much a community."

Representatives from older, established organizations as well as newer companies with workforces more diverse in terms of age and ethnicity described that culture was a major key to

health behavior change. Many organizations assessed work culture through surveying worker attitudes and perceptions, and these cultural assessments sometimes identified that trust in managers was lacking. This issue then became an emphasis primarily for executive leaders to address. Numerous participants, like the following, described key executive leaders as highly important in setting an example of the work tone or a culture of health.

> Our chair of the firm had meetings on Monday mornings with all his direct reports and at one point, this was years ago as part of developing the culture, he would say, "How was your weekend? What'd you do over the weekend?" "Well, I got ABC client and we're ready to go." "But, no, what did you do with your family? And what'd you do in the community?" These are smart people, so it didn't take too many weeks for them to be ready with some answers. And, then, toward the end of the year, he'd go around, tap somebody on the shoulder and say, "I saw that you have 2 ½ weeks of vacation. Why don't you take those, cause they're going to expire at the end of the year." And he would talk to us, in his voice mails about what he did over the weekend and what he and his wife did, and he was a big sports fan, and he'd give us these reports, and it was kind of folksy in a way, but the message got across.

Several participants described that employee feedback led to attempts to make the workplace "more fun," with times for more casual social interaction or "to celebrate what we've done." In some instances, this stemmed from a greater emphasis on communication across all levels of the organization. While participants mentioned these aspects of employee culture and climate as organizational strengths in preventing distress, participants also tended to view these factors as outside of their own area of responsibility. Employee engagement, another common measure of work climate and culture, was another factor viewed as something outside the domain of these participants.

**Strong communication.** Many participants volunteered that regular and clear communication was their organization's greatest strength in reducing distress. Communication was seen as imperative to the overall goal of building a thriving culture of healthy employees and a financially successful business.

> "We've been on the consistent message for two and a half years. . . I think taking that unknown or the uncertainty out of the situation, for *all* of us, has positive impact to coming to work and what we're going to do each day."

Participants suggested that the economic downturn of 2008 and the resulting layoffs emphasized the importance of communicating clearly. Transparency about organizational changes was seen as being vital to reducing distress. "People just want to know," was a frequent theme. "Sometimes the stress people experience is fear of the unknown and their concern for what's happening to co-workers." Treating individuals respectfully, transparently, and as generously as possible during downsizings reassured both the person leaving and the employees remaining with the organization.

One company prepared for their workforce reductions by providing an internal outplacement program an entire year before severances occurred and by including stress management and meditation sessions led by their internal EAP. Another company creatively restructured their operations without downsizing and offered generous relocation packages. Sixty percent of affected employees took advantage of the relocation offer. A top company executive personally welcomed these employees to their new office in another state across the country on their first day of work. An internal assessment tool helped employees recognize emotional reactions associated with the transition and helped steer them toward appropriate resources.

The concept of "face-to-face" communication, even when provided virtually through technology, was mentioned consistently as being helpful in preventing distress. The importance of having a CEO or top leader meet with employees at predictable and recurring times was emphasized as a positive factor.

> "People can ask any question they want, once a month. So people start to trust in top management because he's been transparent with them. They may not always like the message, but at least they can trust that it's probably true."

A multi-year training for all departments of one company that addressed communication principles acknowledging the emotional and cognitive sides of interactions was described as markedly improving manager relationships and management's willingness to work towards common goals rather than competing.

**Providing Information, Benefits, and Resources**

Participants described an array of information, benefits, and services available to employees and family members related to stress management. Nearly all the participants' organizations had employed health risk appraisals (HRAs) and had EAPs and/or behavioral health benefits. All participating organizations provided access to some kind of information about stressors and the stress response through their health plans or through health promotion, EAP, or Work-Life programs, and many were providing innovative and flexible ways of providing access to this information for family members of employees.

**Assessment and intervention.** Most employers with HRAs reported that the appraisal process includes questions to assess employees' self-perceived levels of distress, and many assess for depression and anxiety. There was variability in how such questions are constructed. Data comparison is difficult even within a single organization, as information typically is housed within a health plan or among other various vendors in order to protect employee privacy. A few participants praised the value of a data warehouse or analytic partner for allowing comparisons of aggregate data from different areas of the organization. They describe using health risk appraisal aggregates along with other data to understand their employees' multiple health risks and to help the employer organization make decisions about benefit and program design. "We did a deep dive into determining pharmacy utilization and co-morbidities and discovered the mental health pieces of other chronic diseases. It was there, we just weren't looking at it yet."

Increased use of technology was described as expanding proactive outreach for mental health screening and follow-up by some organizations. Participants suggested attending webinars is preferred "even if the live presenter is just down the hall." In some locations events are video recorded, made accessible on a company intranet for 10 days, and employees encouraged during that time to call in to a "warm body" to get personal questions answered about the topic. Training sessions educate managers about the benefits of such approaches for the employer organization, so these managers then will encourage employees to take advantage of the resources.

Participants shared that effective programs require trust, time, and structures encouraging interdisciplinary collaboration in order to be effective. One participant described developing an innovative life-coaching pilot in conjunction with a respected nursing department manager, "someone you'd take a bullet for." Another described a long-standing relationship with an EAP vendor that developed over many years of working together on creative approaches ranging from prevention to disability management.

Participants with internally managed EAPs described high satisfaction with this arrangement because of the depth of knowledge that develops about the organization over time. Participants who were pleased with external EAP arrangements attributed success to long standing, trusting relationships.

**Concerned participants.** Only three participants openly volunteered that they felt their organizations were doing little to reduce stressors or to improve coping or resilience skills. One participant described a sense of frustration and expressed confusion about how to address stress, stating, "I don't think we have any strength, but I think we are raising awareness about the need." In that organization, stress has been the top health problem identified by HRAs for years, yet the participant reported that few employees express readiness to change behaviors related to stress

management. “Maybe people have a fatalistic approach; maybe they think it is unchangeable. Maybe they don’t see any chance for self-efficacy.” Moving employees to higher levels of awareness and readiness to change was a perplexing challenge. This participant also expressed marked dissatisfaction with the structure and relationship with their EAP, a mixture of national and local providers with no common internal management and little collaboration with health, wellness, and disability management efforts.

In a second case, the participant also described EAP as playing a marginal role in their organization, serving only upper level managers and only on a reactive basis. Although this employer was part of a health-related industry, health promotion efforts within the company were minimal. Health assessments were provided through the company’s health plan “only to higher corporate level employees. . . They meet with a health coach and get certain refunds or credits toward their benefits. . . They say that’s the only reason why they do it.”

A third participant suspected that being part of the food-related industry and located in a particular region of the country contributed to a lackluster health culture in her organization. Managers work long hours, and these individuals accept this as part of the job. Managers are trained in handling crises they might experience in retail operations, but in terms of strategies for managing their own health and well-being, “if you tell me I’ve got to take better care of myself, it’s just foreign.” This participant hoped that recent internal collaborations over the last year (quarterly meetings among human resources, benefits, EAP, and vendors) and changing national sentiments regarding diet, obesity, and the food industry would help this particular organization to integrate broader health-related initiatives for managers and employees in the future.

In these instances of explicit dissatisfaction with efforts to address stress, none of these three participants described instances of upper level leaders setting healthy examples or

encouraging workers in behaviors supportive of health and well-being. The participants describe their organizations as attempting to integrate their health promotion efforts, but they report on-going struggles with developing trust in the structures, practices, and relationships that other study participants valued.

**Building resilience, energy, and engagement.** One organization described a strong sense of having leaders-as-champions in health and well-being. This employer, in a health-related industry, has developed a multitude of innovative programs over time, including HRAs, health coaches, seminars, and webinars. This employer developed a novel series of face-to-face workshops that take place over a period of hours or days, and that are provided to all levels of employees. The programs are conducted by outside consultants or by an interdisciplinary set of internal trained facilitators, who include members from health promotion, disability management, and human resources (HR). The content focuses on energy development, resilience, and high performance behaviors. Sixteen percent of their large global workforce had participated in the workshops, and entire work-units frequently participate together.

The two participants representing this employer talked excitedly about this effort and the thrill of having their CEO use terms about energy and resilience common to these seminars in a national level meeting. One of these participants suggested that the company's sustainability (i.e., their organizational resilience) was dependent on the workforce being healthy and high performing. Key upper managers are holding their teams accountable for having personal development plans, which these participants observed, represents a marked culture shift from 20 years ago.

**Actively Intervening with Troubled Employees**

Participants described a growing area of practice in helping supervisors manage employees who struggle with chronic distress. Actively intervening with these "troubled employees" took on two main forms, disease management programs and absence/disability prevention and management.

**Disease management programs.** These strategies are provided by some employers, typically through health plans or other vendors, to help workers cope with a chronic illness that may be challenging to understand and manage, such as diabetes, heart disease, or depression. Layering stress-related coping strategies on top of the education about the illness itself was viewed as a natural extension of the health management process.

Others suggested that participation in structured disease management programs through health plans was historically low in their population. They were finding greater success with more proactive case management through EAP and/or internal disability management for individuals with chronic conditions. These participants suggest such approaches may better address contextual issues of the workplace and the employee's functional abilities in addition to the clinical treatment needs typically addressed by disease management programs.

**Absence and disability prevention and management.** Another emerging area of practice described by study participants involves mental health professionals helping employees and managers with complex work relationships in earlier stages, to prevent excessive absences or disability leaves. For example, an employee with a work performance problem complicated by difficulty tolerating distressing situations may revert to ineffective behavior patterns learned through early childhood and cultural interactions. The mental health professional consults with the manager and/or employee and coaches them on effective ways of resolving conflicts or

negotiating work roles. Participants stated these active intervention approaches could involve interdisciplinary teams from HR, EAP, case management, and/or risk management.

## Discussion

Workplace representatives from multiple disciplines described perceived strengths of their organizations related to addressing stress and supporting resilience. These narratives were interpreted by iterative reflection using grounded theory methodology to help build a model explaining the complex systemic interactions among multiple variables that contribute to workplace stress or that may ameliorate distress. A rich description of employer approaches resulted. A novel finding was the consistent report by study participants that the trusting relationships, predictable structures and practices, and organizational cultures and traditions, are their greatest strengths in reducing distress and building resilience.

### Model Summary and Theoretical Basis

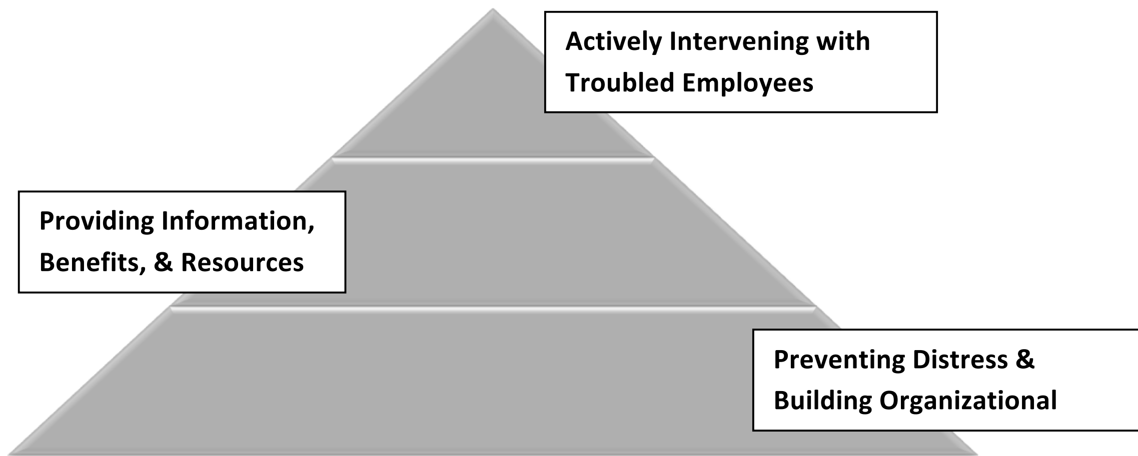
Participant perspectives about the main approaches used to address workplace stress were the primary focus of this study. The three categories of approaches are represented by a pyramid in Figure 1 to illustrate proportions of employees affected by each approach. The labeling taxonomy, 1) Preventing Stress/Building Resilience, 2) Providing Information, Benefits, and Resources, and 3) Actively Intervening with Troubled Employees, uses commonly understood terms to encourage interdisciplinary dialogue.

The proposed biopsychosocial systems model of workplace resilience and engagement (summarized in Figure 2) depicts the interdependent way that individual, work-unit, and organizational variables and environmental factors interact. This interaction determines whether individual and/or collective responses to stressors will be adaptive (recovery from distress leading to resilience, positive employee engagement, and positive organizational outcomes) or

maladaptive (leading to continued distress, disengagement, and negative outcomes). Table 4 provides further detail for the many variables identified by study participants and by the stress literature as potential factors in the model.

The model is informed by the theory of open systems initially developed by von Bertalanfy (1968) and succeeding authors who elaborated on the theory in health-related and organizational contexts. Engel first used the term *biopsychosocial model* in proposing that clinicians evaluate illness with considerations of the hierarchical interrelations between cells, tissues, organ and nervous systems, persons, families, communities, and cultures (Borrell-Carrio, Suchman, & Epstein, 2004; Engel, 1980). This was in contrast to the conventional *biomedical model*, a more narrowed focus on biological reasons for symptoms and disease pathology. Others have used systems orientations to study the interrelationships among people, work units, and cultures in organizations and workplaces (D. Katz & Kahn, 1978b; Lewin, 1951).

The approaches used to address stress are listed in the shaded box at the bottom of the model in Figure 2. The position of the approaches within the model suggests the moderating role they may have on positive or negative trajectories (continually oscillating levels of distress progressing either to recovery/resilience or to distress/dysfunction) at individual, work-unit, and organizational levels. The outcomes on the right side of the model illustrate economic and societal costs and benefits influenced by the capacity for resilience at the three levels.




**Preventing Distress & Building Organizational Resilience**

- Symbols and guideposts (values, ethics, mission, goal/role clarity, training/mentoring, career development, diversity)
- Culture and practices (repetition over time, work policies, health champions)
- Strong communication (face-to-face, predictable structure)
  - From CEO or leader
  - Employee-supervisor
  - Work-units

**Providing Information, Benefits, & Resources for Building Individual Stress Management/Resilience Skills or Relieving Distress**

- Health risk assessments, coaching, follow-up information
- EAP & Work/Life
- Information, webinars
- Education & behavior change programs
- Behavioral health plans for mental health treatment

**Actively Intervening with Troubled Employees**

- Disease management
- Absence and disability prevention & management (training and support for supervisors and managers)

*Figure 1.* **Organizational Approaches to Workplace Stress.** Participants described three main categories of approaches used to address workplace stress. There may be overlap in categorization, however. For example, assessments may both be preventive and provide information. Communication training may help enhance role clarity or help employees returning from disability. The pyramid shape illustrates that preventive approaches are directed at large numbers of employees, active interventions at smaller numbers.

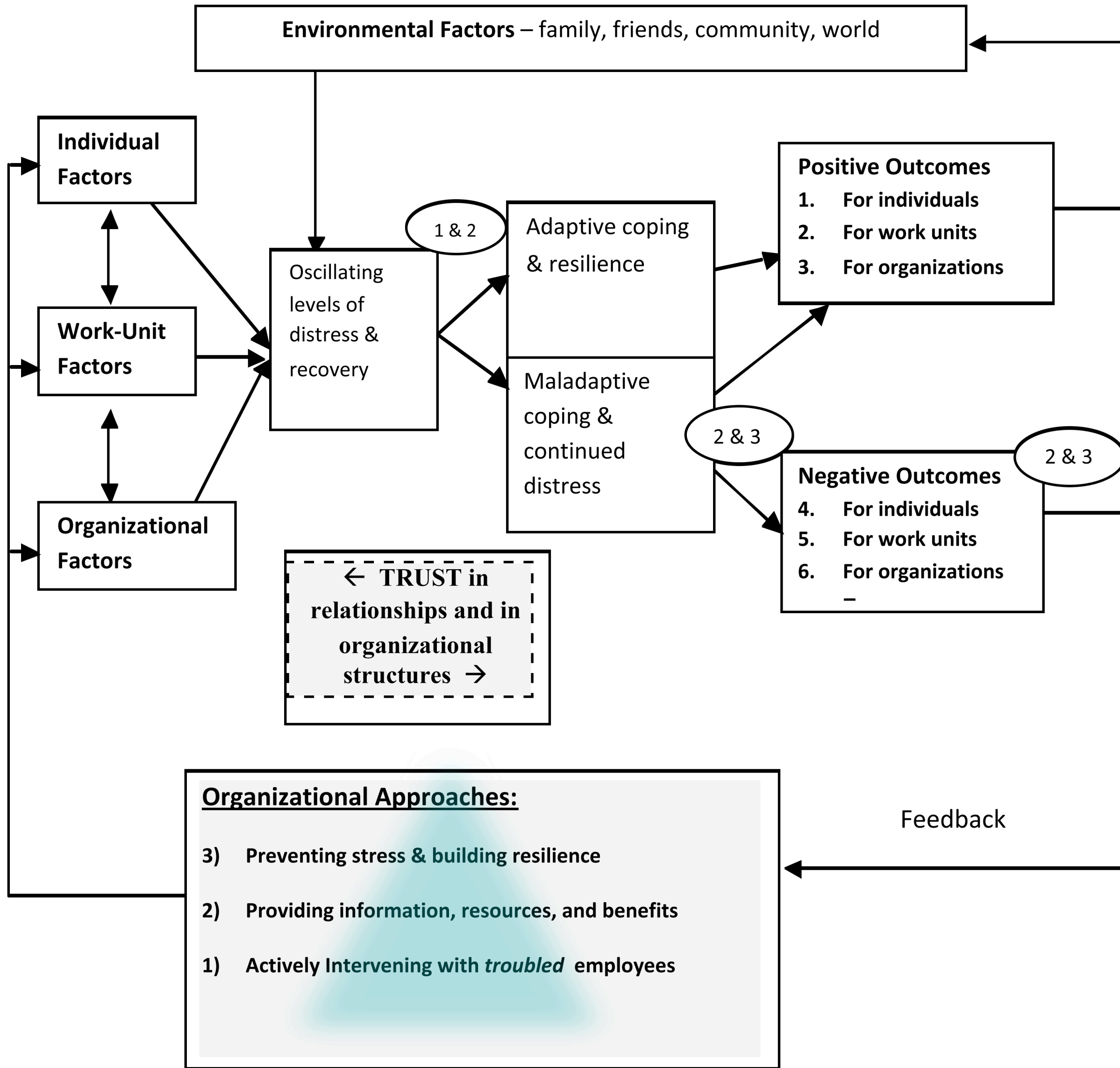



*Figure 2.* **Biopsychosocial Systems Model for Building Workplace Resilience and Engagement.** The model shows the relationship between multiple variables in the process of adaptive or maladaptive coping with distress and the potential moderating role of various organizational approaches. The numbers in circles show when the approaches are typically applied. Copyright 2010 by Nancy Spangler

Table 4

Multiple Factors in Biopsychosocial Model

| Factors | Intermediate Outcomes | Long Term Outcomes |
|---|---|---|
| **Individual Factors**<br>• Age<br>• Gender<br>• Cognitive & attention levels<br>• Education<br>• Biological, genetic makeup<br>• Health habits/nutritional status, exercise (+/-)<br>• Psychological outlook, beliefs, mental models (+/-)<br>• Life experiences, coping opportunities & outcomes (+/-)<br>• Emotion regulation & coping skills<br>• Control bias (internal vs external, high vs low need)<br>• Need for social affiliation<br>• Need for novelty, risk, challenge<br>• Financial resources | • Trust<br>• Empathy<br>• Rest/sleep<br>• Self-efficacy (personal mastery experiences, observations of other people managing tasks successfully, encouragement from others, and experiencing a physiological perception of challenge)<br>• Self-actualization<br>• Resilience<br>• Energy<br><br>Vs.<br>• Distrust<br>• Withdrawal, isolation<br>• Aggression<br>• Sabotage<br>• Gaming the system<br>• "Troubled employee" | **Potential Positive Outcomes**<br><br>For individuals -<br>• Complete health<br>• Engagement (full discretionary effort)<br>• Thriving<br>• Flourishing<br>• Flow<br>• Well-being<br><br>For organizations -<br>• Work attendance/retention<br>• Work performance/quality<br>• Organizational Resilience<br>• Safety<br>• Client satisfaction/Loyalty<br>• Profitability |
| **Work Unit Factors**<br>• Interaction styles, amount, timing<br>• Work pace & practices<br>• Job design, work demands<br>• Performance feedback<br>• Relational resources (fun, socializing)<br>• Access to tools & resources<br>• Supervisor's management skills/style | • Goal clarity/ alignment with org mission<br>• Role clarity/accountability<br>• Work significance<br>• Job-worker fit<br>• Social affiliation<br>• Professional affiliation<br>• Participation in decision-making Opportunities to reflect, interact, process responses, and adjust future course<br>• Conflict resolution<br>• Work -- hours/flexibility & demands (amount, type | |
| **Organizational Factors** | | **Potential Negative** |

- Regular opportunities for information sharing, transparency in communication
- Mission valence (Clear mission, ethics, values)
- Family, paternalism
- Diversity, acceptance
- Supportive of community interests
- Safety & convenience of facilities & environment (e.g., parking)
- Pace & coordination of change
- Technology
- Inter-org affiliations

- Trust in resources over time
- Integrated team and vendors trust each other
- Explicit common language tying health, energy, resilience to performance (by leaders & teams)
- Supervisors focus on & document work behaviors, not illness information
- Accountability
- Organizational commitment
- Collective sense of efficacy

**Outcomes:**

For individuals -

- Complete ill health
- Distress
- Burnout
- Disengagement
- Disability

For organizations -

- High health care, work comp, & disability costs
- Absence/turnover
- Accidents
- Poor performance
- Revenue loss
- Violence

**Environmental Factors**

- Family/Friends
  - Caregiving responsibilities
- Community/Culture/global attitudes
- Public Policy
- Economy
- Disasters
- Violence
- Technology
- Access to healthy foods, safe environments, quality health care
- Traffic
- Cultural

**Core concept of trust.** The primary concept emerging from participants' discussions is an *interdependence of trusting relationships and organizational structures and practices*. This concept helps clarify the participants' perceived strengths. The development of trusting relationships may be viewed as a biopsychosocial process involving *immediate* and unconscious sensory and neurophysiological processes as well as cognitive components that develop *over time* through interaction between individuals (Carter & Porges, 2010; G. R. Jones & George, 1998). Trust appears to be essential for effectiveness across the three categories of organizational approaches (Preventing Distress; Providing Information, Resources, and Benefits; and Actively Intervening) for building resilience and engagement. Trust was described by participants as being necessary for negotiating professional roles and boundaries that sustain individual, work-unit level, and organizational effectiveness.

This study suggests trust in relationships is supplemented by trust in enduring structures and practices that contribute to organizational stability over time. Scholars of social and organizational systems propose that individuals and organizational structures are best studied together and understood as inseparable (Giddens, 1984, 1998; D. Katz & Kahn, 1978a; Strauss, 1975). Giddens suggested organizational structure makes human interaction possible, and individual human actions (agency) create the structure. Repeated over time, these structures, "understood as rules and resources" (p. 185), become institutionalized. Straus (1993) labeled this collective interaction *negotiated order.* Formalized ethics, values, and missions are examples of organizational structures serving as rules that prime worker behavior. Workplace cultures such as those described by the study participants result from these normative behaviors.

***Priming role of organizational rules.*** Values are considered to be beliefs that guide individual conduct, learned and integrated through social and psychological systems (Rokeach,

1973). Values shape what is important and meaningful to individuals and the activities in which they will be motivated to engage (Kielhofner et al., 1999). Values, missions, and ethics statements provide structure and serve as organizational rules. Rules help to prime behaviors through automatic cognitive constructs or ways of thinking (Bunge & Wallis, 2007). Thus, not only our conscious behaviors but also our automatic responses are facilitated by integrating rules to guide our daily activities and our emotional responses (Mauss, et al., 2008). Specificity of rules, as illustrated by participants who described clear guidelines and consistent accountability for ethical behaviors, enables recall and behavioral application. In organizations, a sense of enduring purpose and values helps balance short-term efficiency and profit concerns against meaningful action and long-term outcomes and sustainability (Khurana & Podolny, 2005).

Participants suggest that observing positive relational behaviors helps to institutionalize organizational rules and norms of ethical behaviors; such behaviors include calm rational interactions instead of angry dismissive outbursts. Participants described organizational communication of expectations, training and mentoring programs, interactive performance reviews, and accountability for unethical conduct as helping to reinforce cognition and behaviors that become automatic routines and habits over time. Opportunities for interaction with leaders, clear and consistent policies, role clarity, and adequate attention to job-person fit and career development also were described as helping to guide behaviors and to reduce distress.

***Workplace cultures.*** The organizational norms underlying ethical rules and behaviors also seem to contribute to a general respect for and a culture supporting the well-being of organizational members. When expressed in terms of *cultures of health* or *family-like cultures,* participants suggest that beliefs, structures, and practices for addressing health in general or for treating one another with nurturing ways contributes to enhanced resilience. Participants'

perceptions seem to be affected not only by the length of time that their organization had provided health and wellness programming or the level of resource commitment but by the level of participation in healthy behaviors across multiple levels of the workplace and the language that permeated the culture. This insight suggests that individuals have internalized a particular organizational culture when tacit, unwritten rules are followed by group members (Schein, 1992), rather than when corporate policies regarding values and beliefs are simply espoused.

Workplace culture may have positive and negative effects, however. Working excessive hours was mentioned as a negative cultural norm that contributes to stress. Family-like cultures, however, tended to encourage a strong work ethic and loyalty to the organization without an expectation for working excessive hours. Participants from organizations with family-like cultures suggested their organizations have lower levels of absence and disability, and that workers in these cultures viewed being gone from work as "letting their teammates down."

**Implications**

Participants' narratives suggest effective approaches to addressing workplace stress and building resilience stem primarily from trust in relationships and trust in stable organizational structures and practices. The biopsychosocial systems model is proposed as a way of conceptualizing how resilience to stress occurs in the context of individuals, work-units, and the organization as a whole and contributes to employee engagement for effectively accomplishing work together.

Participants described a wide variety of perceived organizational strengths they believed help to prevent distress, as well as programs and benefits that help individuals and work-units cope with stress while building resilience. No single professional domain, however, currently

covers the full spectrum of approaches – from prevention, to providing resources, to actively intervening.

**Negotiated professional roles and boundaries.** Similar to biological systems, workplace systems have a tendency to evolve over time, to become more complex, and to differentiate, and then to specialize (D. Katz & Kahn, 1978b). Organizations tend to departmentalize to keep increased complexity manageable. Yet in doing so, departmental specialties take on a narrow view based on what becomes salient to their specialty (Martin, 2007). In each of the participant's professional domains, specialized roles have evolved to reduce complexity and maximize professionals' time, intellect, and competence.

While specialization may help in terms of division of labor, it may also create conflicts when professional boundaries and roles are unclear and there are gaps in service delivery. Professional training and credentialing helps individuals develop a sense of competence and professional identity and helps consumers of care develop trust in caregivers (Strauss, 1975). Narrow professionalism, however, may limit one's scope and create a dilemma for professionals desiring to adopt new roles, such as those needed for a mental health promotion and disability prevention framework.

There is little uniformity as to whether mental health promotion falls under the domain of health promotion, EAP, or human resources. While some health promotion programs have added mental health-related questions to HRAs, participants suggest that health promotion providers do not typically address stress and resilience programming sufficiently. Furthermore, relying on HRAs and informational interventions alone may not be sufficient for changing longstanding behaviors that contribute to distress (e.g., negative thinking, emotion regulation, and conflict resolution patterns). In fact, raising an individual's awareness that their stress management skills

are insufficient through repeated HRAs without effectively supporting behavior change may further contribute to an individual's sense of helplessness and hopelessness.

Participants described varying levels of satisfaction with EAP in more proactive educational and consultative roles rather than reactive assessment and referral roles. The discriminating features in satisfaction with EAP vendors seemed to be the strength of relationship between the organization and the EAP managers and the willingness of the EAP to be innovative in service delivery models. The participant describing numerous attempts to negotiate more proactive roles for their EAP vendor (e.g., providing onsite training, coaching, or consultation instead of one-on-one counseling) suggested that business models prevented meaningful change in the traditionally reactive EAP role. This was frustrating since many employees who would benefit from intervention were unaware of resources or unmotivated to access them.

Scope of practice documents for EAP, social work, occupational therapy, and industrial/organizational psychology suggest professionals in these domains are qualified for preventive roles in the workplace. Current organizational, policy, and reimbursement structures and practices, however, may not facilitate placing these professionals in roles that allow them to effectively support managers, supervisors, and employees who are struggling. Professional training and role identity may also interfere with taking on these more educational and consultative roles.

**Value and challenges of interdisciplinary integration.** Participants did describe examples where integration of several health-related areas occurs. The organization that focused heavily on resilience-building trained staff from multiple disciplines (health promotion, disability management, and human resources) to provide workshops to other employees. Resilience

program components used by this organization and others are supported by research evidence. These include: 1) opportunities for individual and/or collective reflection through dialogue and/or writing about past experiences, personal attributes, and commitment to future desired states (Pennebaker, 1997; Roberts & Dutton, 2009; Schon, 1983; Seligman, Steen, Park, & Peterson, 2005; Weick, 1995), 2) support and opportunities for developing relational, communication and emotion regulation (Mauss, et al., 2008), 3) self-efficacy and mastery experiences, particularly skill development in the context of meaningful work (Bandura, 1986), and 4) resources and structures for health and lifestyle habits (relaxation, exercise, and nutrition) that generate physical and emotional reserves for times of challenge and that support periods of recovery and replenishment (Dusek et al., 2008; Hawkley et al., 2005). There is little research, however, that assesses overall effectiveness of resilience programs, partly because these programs tend to be proprietary (e.g., provided by consultants) and not reported in research literatures.

Collaboration among health promotion, EAP, occupational medicine, and disability management disciplines, along with human resources, benefits, and health plans on integrated health management teams, is occurring with varying arrangements for intervening with troubled employees actively. This particularly is the case for improving return-to-work (RTW) strategies and transitional work roles following disability. Mental health and rehabilitation specialists are helping employees navigate the health care system, facilitating quality behavioral health care practices, and providing input on benefit design that removes barriers to care (Finch & Slavit, 2010). These role negotiations and changes in professional identity are not commonplace, however, and require concerted time and effort.

One study participant, a disability manager, gave a poignant description of a series of interdisciplinary trainings among her staff and occupational medicine staff in an approach called *motivational interviewing* (Miller & Rollnick, 2002). The experience released this participant from the paper-pushing role she had assumed, and "gave her permission to focus on the human elements" with clients. The participant helped her clients regain control of their lives as she had been trained, rather than simply ensuring clients got certain benefits. Just as key executives may model emotional regulation through communication, mental health professionals assisting in return-to-work situations involving emotionally charged interactions may help in modeling calm demeanors and approachable social behaviors.

Participants describing innovative ways for implementing new interdisciplinary roles suggested familiarity with an organization and its culture is very important. They consider being highly visible, embedded in the context and work priorities of particular work-units or regions, as critical to gaining the trust of these constituents. These study participants also stated technology-enhanced communication (telephone and e-mail) is effective for interactions once a personal relationship is developed, but that complex or highly emotional situations typically require face-to-face interaction. This belief is supported by organizational communication research (Maznevski & Chudoba, 2000; Stamper & Johlke, 2003).

Organizational scholars suggest professionals need opportunities and skills for collaborating across boundaries for workplaces in order to meet mandates for innovation and sustainability. Interpersonal conditions that build a climate of trust and psychological safety are necessary, along with structured and predictable opportunities for communication, in person and through technology (Edmondson & Nembhard, 2009; Senge, 2008). Continued efforts in this

direction are vital for reducing negative effects in the workplace resulting from behavioral health conditions or disabilities.

Excessive attention to the disability end of the health spectrum in lieu of preventive efforts, however, is shortsighted. A concern is participants' frequent mention of employee engagement as a stated corporate priority that is dissociated from health efforts. Typically, study participants described engagement initiatives as being "owned" and managed by human resources or organizational development departments, with participants viewing these initiatives as leadership issues separate from health-related efforts. The literature, however, suggests engagement and mental well-being are closely related concepts (Schaufeli & Bakker, 2003), and acknowledgement of this connection by corporate leaders may be important.

Currently, health professionals are accountable for proximal outcomes (reducing disease symptoms, risk factors, or disability rates) but not for more distal organizational outcomes, such as work performance, retention of key employees, or employee engagement. Increased interdisciplinary interaction and understanding of the systemic nature of organizations may help broaden perspectives beyond narrow domains of accountability. Depression and stress-related illnesses often become chronic, so a goal of bringing individuals to a neutral position (i.e., reduction of impairment or symptoms) may not be sufficient to sustain long-term well-being and engagement. Supportive work relationships and peak experiences that build a sense of thriving and self-efficacy may play a protective role in terms of health and in work engagement (Crockett, Clark, Tabibnia, Lieberman, & Robbins, 2008; Gallup, 2008; Heinrichs, Baumgartner, Kirschbaum, & Ehlert, 2003; Keyes, 2005).

**Leadership and manager roles.** Participants suggested that leadership roles are changing and that organizational leaders increasingly serve as stewards of employee emotions.

While corporate leaders of the past tended to follow hierarchical bureaucratic models of management (Weber, 1947), more recent leadership models require leaders to take on new roles and identities in the midst of relational interaction, societal changes, and shifts in patterns of working (Fairclough, 2001; Weick, 1995). Participants reinforced that the CEO or other top leader, as the face of the organization, helps in reassuring employees and setting the vision for the workforce.

These relational and reassuring roles may be difficult for leaders accustomed to leading in a different style, or for leaders attempting to reassure employees when they themselves feel uncertain about economic or organizational outcomes. Top organizational leaders may struggle with their own stressors and may feel the need for resources and support. Executive coaches are a resource for supporting leaders in these new roles (Peltier, 2010).

Coaching and preventive resources are needed for managers and supervisors at the work-unit level as well to support desired behaviors in the context of day-to-day work. This is where small continual adjustments may contribute to substantial and meaningful organizational change (Weick & Quinn, 1999). Roles of the middle level manager and supervisor are also changing from paradigms of control to models of teamwork and employee participation requiring greater social interaction (Senge, 2008). Participants suggest these social relationships cause some confusion in setting professional and personal boundaries. Social attachments with workers may reinforce a caregiving role for supervisors making it difficult to hold accountable the employees they supervise. This may be particularly true of workplaces with employees whose professions involve a caregiving component, such as healthcare, teaching, or customer service. One participant described how a coaching strategy helped these “enablers” to document performance

issues earlier and to hold employees accountable, thereby reducing the distress of the new supervisor's management role.

Participants in mental health roles who spend time training and coaching managers believed they are helping to uncover *troubled managers* as well as *troubled employees*. Greater availability of mental health professionals who understand the organization's structure (explicit and implicit rules, missions, policies, practices, and culture) and workforce appears warranted. Participants suggested recurring trainings and consultations by mental health professionals in conjunction with HR personnel help to rein in unnecessary disability claims related to distressing work relationships. This helps work-units reduce time spent on addressing disciplinary problems and retains employees in valued work roles.

Supervisors may be encouraged to use universal methods of accommodating all employees with varying abilities and challenges and to provide *natural supports,* such as flexibility, training for their job, supportive relationships, and accepting cultures (Secker & Membrey, 2003). This may help to reduce stigma of disabling conditions while building trust in the employee-supervisor relationship and in the organizational structures. Careful study of these innovations would be valuable.

Moving to more proactive models supporting greater effectiveness at work-unit levels will require adaptive processes and effective teams. Organizational scholars suggest team members who struggle with challenges and work out conflicts constructively build greater capacity for the learning and innovation required in uncertain business environments (Edmondson & Nembhard, 2009; Senge, 2008). Interdisciplinary teams are seen as particularly important for reducing narrow thinking and encouraging creative solutions. Collective reflection upon the unique nature of their business and the context within which they operate helps

organizations respond to challenges and crises that naturally arise (Weick & Sutcliffe, 2006). Study participants with innovative approaches to stress and resilience also reported strengths in their own interdisciplinary planning and program implementation.

**Insights and Future Research**

Involving participants from a variety of professional roles and industries provides strength for the conclusions reached in this study. All participants willingly volunteered their time, and many stated that their participation helped them to reflect on their organization in a novel manner. Those who participated in the group discussions expressed that they appreciated the interactive process of the research and would be interested in participating in additional related discussions in order to learn from one another. Convening employers for collective interdisciplinary discussions about stress and resilience would be a valued role for organizations serving employers and may encourage employers to share innovative and effective practices.

Study limitations include cautions when generalizing the current findings to other organizations. Participants in these discussions were drawn from some of the largest employers in the United States. Because of their involvement with collaborative organizations, they were expected to have positive examples to share. Future studies with representatives from small- to medium-sized companies would be valuable for learning differences in the ways these organizations and their managers approach workplace stress and resilience building. While large organizations may have more internal resources to draw upon and a longer history of offering employee benefits than some small employers, smaller employers may reduce distress in other ways. They may be more selective in hiring employees that fit their culture, more flexible in meeting the needs of their employees, and they may be able to respond to changing corporate needs more quickly. The preponderance of women managers in the study sample appears to

reflect the target population for the study since 67-80% of HR managers, psychologists, counselors, and social workers are women (United States Department of Labor, 2009). Future studies, however, contrasting differences in perceptions based on gender and age may be useful.

Additional studies with employers that have larger numbers of union employees would also provide a valuable perspective, as there may be differences in cultural environments and structural practices in such workplaces. Other areas of suggested research include the social and behavioral neuroscience of trust and emotional attachment in work relationships; emotion regulation in the context of work; and the effectiveness of emerging interdisciplinary intervention approaches at the work-unit level for communicating with, supervising, and engaging employees.

## Conclusion

Glaser and Strauss (1967) called for theory building that was practical and actionable. The biopsychosocial systems model presented builds upon previous models of workplace stress and is supported by existing theory and by research findings. The proposed model is complex but helps to raise awareness of the multiple systemic factors related to workplace stress, resilience, and engagement. The model's component parts, particularly the intervention approaches, may be tested individually or collectively. Furthermore, understanding how these contributing factors are interconnected may encourage workplace professionals to recognize and address broad organizational outcomes that are within their scope of influence and that have economic and societal value.

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**Appendix A: Telephone Recruitment Script**

"Hello, my name is Nancy Spangler. I am calling to invite you to participate in employer discussions about stress and resilience in the workplace as part of a research project at the University of Kansas Medical Center. Would you like to hear more about the project?"

*[If **no** response, say "thank you" and end the conversation]*
*[If **yes** response, describe the study using the following information.]*

"The purpose of the study is to examine the commonalities and differences in approaches to workplace stress prevention and intervention, and the attitudes and systems that support these approaches. Representatives from a variety of employers will take part in group discussions as part of this study."

"You are eligible to participate if:

- Your workplace organization has 100 or more employees in total, even if all employees are not in the same location.
- Your primary work role includes responsibility for employee health and work performance (e.g., human resources, benefits, health promotion, employee assistance, occupational medicine, disability management, training/organizational development, work/life, risk management).
- Your workplace has implemented a program, benefit, or organizational practice to address stress or enhance resilience (the ability to bounce back from adversity).
- You are willing to commit approximately 60 – 90 minutes for discussion of these features initially, and up to an additional 30 minutes if needed for an individual follow-up telephone interview."

"I will be conducting the discussion groups in Kansas City, or you may join in by phone, on:

- Wednesday, April 7, 4:00 – 5:30 p.m.
- Friday, April 9, 8:00 – 9:30 a.m.
- Wednesday, April 14, 4:00 – 5:30 p.m.
- Thursday, April 29, 8:00 – 9:30 a.m.

May I send you a schedule and the information you need to register for one of these discussion sessions?"

*[If **no** response, say "thank you" and end the conversation]*
*[If **yes** response, describe the study using the following information.]*

"I am hoping to obtain a multidisciplinary view of workplace resilience building. Are there other professionals in your organization, or colleagues in other workplaces, who might be interested in participating? Would you mind providing their contact information, or placing them in touch with me?"

"Thank you."

**Appendix B: Participant Information Form**

## ***Participant Information Form***

*Employer Perspectives on Stress Intervention and Resilience Building: A Qualitative Study*

**Name:** ___________________________________________

**Employer name:** ___________________________________

**E-mail:** ___________________________________________

**Telephone:** ___________________________________________

**Your work role:** (Please indicate areas over which you have responsibility; you may choose more than one)

___ Benefits
___ Human Resources
___ Disability Management
___ Employee Assistance Program (EAP)
___ Occupational Health
___ Health Promotion/Wellness
___ Training/Organizational Development
___ Work/Family
___ Diversity

Other ________________________________

**Your age: _____** **Your gender: _____ Male _____Female**

**Number of years you have been with this employer: _____**

**Number of employees at your location (approximately): ______**

**Total number of employees in your organization (approximately): ______**

**Approximate % of union employees: ______**

**Please indicate which type of industry best represents your workplace (please choose one):**

___ Accommodation and Food Services
___ Administrative/Support/Waste Management/Remediation Services
___ Agriculture, Forestry, Fishing, Hunting & Mining
___ Arts, Entertainment, & Recreation
___ Construction
___ Educational Services
___ Finance and Insurance
___ Health Care & Social Assistance
___ Information
___ Management of Companies & Enterprises
___ Manufacturing
___ Other Services (except Public Administration)
___ Professional, Scientific, & Technical Services
___ Public Administration
___ Real Estate and Rental & Leasing

**Appendix C: Informed Consent Form**

*Employer Perspectives on Stress Intervention and Resilience Building:*
*A Qualitative Study*

Jeff Radel, PhD, faculty advisor and principal investigator

**INTRODUCTION**

As a professional involved in employee health and work performance, you are invited to participate in a research study that will examine the various ways that employers are working to reduce stress or help employees be as resilient and mentally healthy as possible. This study will be conducted as part of dissertation research requirements at the University of Kansas Medical Center's Therapeutic Science program by Nancy Spangler, MS, OTR/L, graduate student co-investigator.

*You do not have to participate in this research study. It is important that you read the rest of this form and ask as many questions as needed to understand what will happen to you if you choose to participate in this study.*

**BACKGROUND**

A certain amount of stress is inherent in all workplaces and may be helpful in enhancing or motivating work performance. Excessive or prolonged stress, on the other hand, may contribute to depression or anxiety in vulnerable individuals. Depression, anxiety, and stress related disorders are costly to employers. Numerous studies have identified interventions that are effective for helping individuals cope with stress, and emerging research suggests training may help individuals become more resilient to stress. A few studies also document effective approaches to reducing stress through improved organizational leadership and management strategies. Little is known, however, about the conditions, organizational structures, attitudes, and practices that allow successful adoption of such interventions and approaches. Research is needed to help expand knowledge about addressing workplace stress.

**PURPOSE**

The purpose of this study is to gain deeper understanding of the types of benefits, programs, and organizational practices employers are using to prevent stress or to help employees cope with or become more resilient to stress and perceptions of workplace professionals about effective implementation of such approaches.

**PROCEDURES**

If you are eligible and decide to participate in this study, you are asked to take part in the following way:

- Complete the attached form to provide information about yourself and your employer. Please return to Nancy at nspangler@kumc.edu. The form will take less than 5 minutes to complete.
- Confirm that you are available for the discussion group or interview described in the communication you received with this consent form.

Discussion groups and interviews will be facilitated by Nancy Spangler. Themes for discussion include beliefs and perceptions about the effectiveness of stress prevention/management approaches that are being implemented, the role of multidisciplinary collaboration in implementing the approaches, and the future resources employers believe they need to effectively address stress in the future. A tape recorder will be used to record discussion groups. First names only will be used during discussions, and participants are welcome to use a pseudonym. After the session, the audiotapes will be typed into a computer and printed transcripts used for coding and analysis of common themes and insights. Nancy will take notes during the interviews to help in recording accurate and useful information. Discussion groups will last approximately 60 to 90 minutes. You may also be contacted by phone for additional information, to verify responses, or to clarify statements. This phone contact may last approximately 15-30 minutes. Faculty advisors on Nancy's dissertation committee will read transcripts or review tapes of the discussion groups to assist in accuracy of analysis and coding. A final report will be shared directly with all participants who provide contact information, and the report may be posted on the websites of the collaborating organizations. Digital audio recordings and typed transcripts will be stored on a secure computer for seven years following the study and then deleted.

The participants' names and the names of their employers will be stored separately from information shared by participants during discussions or interviews in the completion of this study. Participant and employer names will not be disclosed in any future communications, reports, or articles that may result.

**RISKS**

It is possible that you may feel uncomfortable talking about the effectiveness of your employer's programs. If at any time you feel uncomfortable, you may skip a question or stop participating altogether. Since we will be collecting identifying information, there is a risk of breach of confidentiality. In order to lessen this risk, we will ensure in advance that meeting or interview rooms have adequate privacy to protect confidentiality of discussions. Participants will be identified during discussions by first name only, or you may use a pseudonym. All identifying data will be stored separately from audiotapes and transcripts and will be accessible only by the investigators.

**BENEFITS**

You may not directly benefit from participating in this research study. It is hoped that the information gained will help investigators learn more about effective implementation of benefits, programs, and practices to address workplace stress.

**ALTERNATIVES**

Participation in this research study is strictly voluntary. Choosing not to participate will in no way have any effect on your employment status.

**COSTS**

There are no costs to you for participating in this study. Telephone discussion groups will be conducted through conference calling facilities at no charge to participants.

**PAYMENT TO PARTICIPANTS**
You will not receive payment for participating in this study.

**INSTITUTIONAL DISCLAIMER STATEMENT**
If you think you have been harmed as a result of participating in research at the University of Kansas Medical Center (KUMC), you should contact the Director, Human Research Protection Program, Mail Stop #1032, University of Kansas Medical Center, 3901 Rainbow Blvd., Kansas City, KS 66160. Under certain conditions, Kansas state law or the Kansas Tort Claims Act may allow for payment to persons who are injured in research at KUMC.

**CONFIDENTIALITY AND PRIVACY AUTHORIZATION**
Efforts will be made to keep your personal information confidential. Researchers cannot guarantee absolute confidentiality. If the results of this study are published or presented in public, information that identifies you will be removed.

No personal health information will be collected during the course of this study. Data will be maintained, however, in a way to protect participant privacy. Tapes and transcripts will be returned to secure files and maintained on secure computers to reduce the chance of disclosure. Only people who are directly involved with the project will have access to records. All materials will be maintained for seven years after completion of the study and then destroyed.

**PARTICIPANT RIGHTS AND WITHDRAWAL FROM THE STUDY**

You understand that your participation in this study is voluntary. You may choose not to participate, to quit at any time, or refuse to answer any study questions without any penalty or loss. If you choose not to sign this form, you will not be able to participate in the study. If you withdraw from the study, information collected prior to receipt of a written withdrawal request may be used in the study.

**QUESTIONS**

You have read the information in this form. The investigators have answered your questions to your satisfaction. If you have additional questions after signing this form, you may contact Dr. Jeff Radel (jradel@kumc.edu; tel: 913.588.7195) or Nancy Spangler (nspangler@kc.rr.com; tel: 816.820.1870). If you have any questions about your rights as a research subject or other concerns, you may call (913) 588-1240 or write the Human Subjects Committee, Mail Stop #1032, University of Kansas Medical Center, 3901 Rainbow Blvd., Kansas City, KS 66160.

**CONSENT**
The investigators have given you information about what you will have to do in this research study and how long it will take. They have told you about any inconvenience or risks you may experience due to this research.

By participating in the discussion groups or interviews, you freely and voluntarily consent to participate in this research study. You have read and you understand the information in this form and you have had an opportunity to ask questions and have them answered.

**Appendix D – Supplementary Participant Narratives**

I. Preventing Distress and Building Resilience

A. Transparent Communications

i. "We have ongoing management communication on the state of the business, the ups, the downs, here's what we're doing, shifting around, whatever. So that's a big part of the culture, very open, transparent, integrity issues. Communication to all the employees.(#8)"

ii. "Our CEO has webcasts at least once a quarter and basically has a topic he talks about and then he opens it up to the full employee population to call in and ask him any and every question imaginable." (#16)

iii. The sessions that we hold, we call 'Time with the [leader].' He shares updates. And people can ask any questions they want, once a month. So people start to trust him in management because he's been transparent with them, he has through the layoffs, through all kinds of turmoil. They may not like the message, but at least they can trust that it's probably true." (Group 8)

iv. "Transparency helps people reduce stress because you're not wondering what is management thinking, what is management doing. . . What I've found on the flip side is that I will be absolutely transparent with the people that report to me and they will automatically assume there's got to be more, I can't possibility be saying it all." (#20)

v. "One of the things we're doing in the culture is to try and be as transparent as we can with our employees no matter where they're located, what shift they work, what job title they have, about the kind of things we think are important. . . For instance, if one of our goals was to keep turnover at a certain level as a system goal, everybody in the organization should know how we're doing with that, because every month that information goes out for the whole system and the department you're in, and it's being posted whether we're doing well or not, including the financial information. So people feel, I know what's going on." (#23)

B. Mission, values, and ethics

i. [Describing a new position over people-related values]"We're going to put in a director level position . . . who's going to own it, and we're going to move a whole big piece of work under that [area] to have a concrete and premeditated approach to how programs and services within the corporation will demonstrate that core value.(#1)"

ii. "One of the really remarkable things about the employer where I'm at now is that they incorporate how people treat each other, people's behavior, in their ethics requirements, and people are held accountable for treating each other well including how management treats the employees. So you don't see things I've seen in other organizations where people are getting yelled at by managers or they're not being

treated fairly because they could just pick up the ethics hotline and report it and it gets investigated. . .We have *generations* of families there. (#14)

iii. "The focus on teamwork and respect has really raised the level of interpersonal behavior and has allowed managers to hold their people accountable for their behavior to their teammates. . . so incorporating the core values has been the greatest thing in prevention [of distress]. (#15)

iv. "Diversity is very big. It's part of our four legs. Diversity, that's in the broadest sense, so that includes intellectual capital, as well as ethnic, gender, every conceivable way people could be discriminated against in one way or another, that they emphasize that we really want to get the best out of everybody and wherever possible make it a win-win for the company and for the employee." (#17)

C. Supportive cultures

i. "Our culture is built on trust, and about a year ago our new VP gave our HR department kind of a job, and we're striving to be a "Great Place to Work". . . I had suggested maybe we should do post-accident drug testing and [management] said that would go against what our building-a-trusting environment would be." (#18)

ii. "We just have a very strong work ethic here and it just feels like people want to be at work. And if we can make that happen, either with a temporary assignment or maybe a little modification with their current job then maybe they can focus a little easier about what's happening outside of work. . . A lot of relatives are working here. I think the expectation is that, we'll take care of you. You do your part to heal and recover, and we'll help in keeping you at work or welcoming you back when you're able to work. That's a huge culture, sort of a family-system that developed around here. And people stay for a very long time. We have people bussed in two hours away, so it's really a choice they're making, choosing to work here. And they stay for 40 years, and they may do some moving around in departments, but it's mostly in lateral movements. I think we're really unique." (#19)

iii. "We had two day management trainings at least three times a year where some of these principles were basically explained and basically everybody from middle mgt on up had to be at those mgt retreats. It was a big deal, it was hundreds of people. We went through the whole didactic part on our level, then we had to make it flow down the organization and be accountable for the fact that it did. So it was a commitment really at the highest level, financially and time-wise to the org leadership and then to disseminate it throughout the organization to really make sure it represents a culture shift." (#23)

D. Structures and practices/Careers and roles

i. "Our current president [emphasizes a culture of openness] with all of his managers. He evaluates them based on that. They go through the same appraisal everybody else does, so if word comes back they're using intimidation or fear as a part of

management, that's not the style that, well, it may have been the style he grew up with, but it's certainly not the style he's in favor of today."(#17)

ii. "We have a work environment survey, result of which mandate managers establishing action plans to deal with the stress levels within their departments. Some respond seriously, some don't." (Group 5)

iii. "We are measuring employee engagement and tying it to managers' bonuses." (Group 5)

iv. "We have a culture of family. We're not required to work excessive hours. Even people who are managers. The culture is beneficial." (# 15)

E. Champions and leaders

i. "We have a great scorecard that we rolled out the last two years that I could share. We pulled in [health risk assessment data] in addition to incidental absence and duration and cost. For each location, it's regional. We've worked it down into our director level. Because there's a lot of competition. They see, hmm, those numbers are a lot better than mine. I'd better get on my [employees] and make sure we're pulling those up." (Group 2)

ii. "Our CEO just a few weeks ago made a comment that we had a 70% participation in a global employee survey, and he specifically mentioned that we have more work to do in the energy and resilience with our employees. So he's using that nomenclature. . . Self-awareness is built into our leadership framework just as these high performance behaviors are, about their energy level, their resilience, how their taking care of themselves. . .There's a great emphasis on sustainability, and we want people to be not just high performing, but *healthy* and high performing in a very sustainable way. . . It takes time to change a culture, but when you hear a leader using those words and manifesting it, it's really helping to set the stage. . .[One division] made a commitment to have all leaders attend a workshop by 2010 but they connect it to the business. To be successful, we need the full capacity of our leaders and their teams to stay engaged, maintain energy levels, fully leveraged discretionary efforts, and deliver high performance. So they've directly linked what we offer to their business success." (Group 7)

iii. "If you have your CEO support, or better, if you have the CEO leading the health efforts, things are going to be faster and easier. But in my opinion, you need both top-down and bottom-up, meeting at some point somewhere to be operational. . . You need to have top leadership, you need to have in the middle the operational leadership, which is the supervisors, the plant managers, and then you need to have the engagement of the grass roots, which is a consequence of trust. Then you could align benefits and provisional services, people trusting access to services. . . If people don't trust what we're trying to do for them or with them, nothing will happen." (#21)

II. Providing information, resources, & benefits

A. Health risk appraisals (HRAs) and health promotion

i. "We've also introduced a wellness ambassador, which is a person onsite doing things, and I think one of the things we've tried to do is look at how do we help these people who are in very very constrained environments. What *can* you do to relieve stress other than going outside and having a cigarette? So we've kind of built it in from a wellness perspective. So we do a lot of sit and be fit kind of training, people sit at their desk and stretch, do different things, we do stretchy band exercises, and the wellness ambassadors are reporting back to us where the [call center] employees are on the headsets and standing up doing their stretchy bands. *As* they're having a conversation, and they feel great about having an outlet."(Group 8)

ii. "We have a health coach line that's the be-all, end-all, referral place for all the health care vendors, and they can be real helpful for matching up the networks and making appropriate referrals to go from vendor to vendor.(#9)"

iii. "We've added questions to the HRA to cover depression, alcohol, and workplace satisfaction." (#16)

iv. "What our department tries to promote is that health is a spectrum that includes being free from disease, but beyond that being physically well, being intact, having a sense of physical wellbeing, a sense of emotional well-being, being connected socially in ways that are nurturing and healthy and positive and even down to things like financial knowledge and financial skills that protect you economically and support you and your family. . . The idea is not to have a little health and wellness department that is *available* as needed to help people with health problems. The health and wellness department's role is more to help shape the organization." (#22)

B. Information, webinars, education, and coaching

i. "We started having a health care professional, a licensed social worker, come in on a monthly basis and hold classes on different topics so that you'd kind of get to know her and decide whether you felt comfortable with her, and she'd also be available to refer to other people within our [healthcare] network. . . There were still a lot of hours that people were having to focus on their job, but I think we did, at least we acknowledged it up front, whereas before we kind of acted like, 'why would we get stressed out?' (#5)"

ii. "We're not in the content business, we're in the *connecting business*, so we connect people to existing resources that will help them take better care of themselves. We look to our partners to provide content and we provide the *medium* through which to provide that content. We just organize it, we orchestrate it all.(#6)

iii. "In the past year, we've done [monthly] programs on resiliency, time management, leave work at work, physical activity, which hopefully will reduce stress. We've also

had many EAP coaching sessions with individual teams, so maybe your department is having some struggle with something. So an EAP coach will come in, work with that team. As well as leadership coaching, but that's kind of a different area. . . We've got details from 14 different areas from the health risk appraisal of what makes them more stressed than others." (Group 8)

iv. "We're really pushing [communication] principles. And now when somebody new is starting with the company, they get that training in the first 6 weeks of starting their job so they understand that's where we want to head, to have more open communication.(#5)"

v. "We're even branching out into looking at how career and health are related, so helping people, looking at the total value proposition, how their financial health and wellbeing, their physical and emotional health and wellbeing, all of that as a way of engaging our employees so they are excited and passionate about giving their whole self, their talent, their discretionary energy to their career. . . . We've engaged a couple of new partners that are specifically focused on programs that we're calling resilience programs so we do recognize that everything we do in [our department] is related to resilience and life balance. Our purposes are implementing this broad approach. We've chosen a new partner that is delivering a very powerful program. We've piloted it in two forms so far, a live workshop, and the same content delivered virtually over WebEx. (#6)"

vi. "We worked with our call center management team to identify the downtimes and the peak times that we can interject the most opportune location and time for [educational] events and then we record them and place them on our intranet for about a ten-day period. . . and a lot of these programs that we've put in place have a 1-800 to a call-center for follow-on questions so you can still talk to a warm body and get your personal question or issue answered." (#16)

C. EAP and Behavioral health plans

i. "We have an EAP program, and as part of this new initiative looking at health care, one of the elements is stress management, so there is manager training, how to identify ees that are having problems, we have salaried employees, hourly employees, a very diverse population. So we focus on all of those pieces. Managers who have their workforce traveling globally and they're stuck in England because the airlines are not traveling but they have no more money, so all of those pieces. Management training, specific employee training, family training.(#8)"

ii. "Maybe what's changing over time, and I'm not saying in the last year or two, is I think people's acceptance of [EAP] as a resource, where I look back 15 years ago you'd say somebody needs to go to the EAP, it would be like "you think I'm crazy," and now I think people understand better that this is a way to deal with things outside of your life, and maybe that's because EAPs

have expanded beyond just the counseling. So that you can say, if you have a childcare issue that's causing you stress in your life, call the EAP. You don't know what to do with your elderly parents, call the EAP. So calling the EAP is no longer a stigma." (Group 8)

iii. "For us, it's been a marketing change. . .I really started pushing it with them to market [EAP] as a lifestyle service and not 'your manager thinks we should call the EAP.'" (Group 8)

iv. "We have our provider physically in the building quite often. She does a lot of our training, coaching, monthly seminars, that kind of thing. . . People like this person, they can relate to her." (Group 8)

v. I have used the EAP personally. It's nice to have someone with training help you. . . I have a better understanding of boundaries, both professional and personal. Things I can and can't control. I also have a mentor well versed in personal relationships and vendor relationships. It's a long term relationship developed over time. . . Over a long period of time, [vendors] either grow to *trust* you, or not. They either want to help you, or not. . . I'm now paying more attention to my gut because I ignored it when it could have been a good resource for me. But it has at times led me down the garden path." (#15) "We report into system operations, which is not a part of benefits, so we're very functionally a part of [the business].

vi. We act as an internal EAP, which is basically a conduit to our vendor. . .We put a lot of pressure on our vendor to do things and we really work to integrate them constantly into the organization. . .Our [EAP case rate] utilization last year was 8%, which for us is fantastic. [With a specific communication campaign about EAP as a resource for coping with a major organizational change], we've had over 14% utilization in the first quarter alone. . . If you can get in with [operations], it really makes your EAP a much more innovative organization, and by default, if something happens in operations, we know about it because we work with them. We're part of the strategy, we're part of the heartbeat, we're fully aware." (#18)

vii. "EAP is physically located right next to Employee Health. It makes it very easy and very safe to just go in and make those connections. And helps in confidentiality and privacy. I think our EAP staff is very good at one-on-one ahead of time with a [manager or supervisor] to talk through a sort of challenging situation. They'll come in and do inservices. Part of it is, people know EAP before they really need them. Part of it is marketing, not really marketing, but knowing the resources available there." (#19)

viii. "[EAP programs] tend to be very reactive programs, and they tend to kick in when somebody is at the end of the rope. . .EAP providers said 'We'll do whatever you want.' . . So they pretend that they're going to do whatever the employer asks them to do and go on and do whatever they want and whatever they've done, which is reactive and at the end of the road. They're kind of

entrenched. . . It’s a business model that doesn’t allow better ideas to come to the front.” (#21)

III. Actively intervening with troubled employees

A. Managing interdisciplinary processes and roles for disability management

i. “The first thing was to really understand the company and the occupational setting. . . So just learning the turf and what the different issues are and the challenges of the occupational setting. . .There’s a team of people representing the employee but not all of them are privy to the issues that the employee is struggling with, so learning in terms of confidentiality, who you can discuss the case with, who can be helpful, how to work on getting an employee back to work, whether they need accommodations or not, but still maintaining their confidentiality and not revealing too much about their struggles to the folk they work for. (#9)

ii. “My job has *integration* in the title, so the collaborations I’m involved in are between our different vendors. If somebody calls our absence management they do a brief depression screening and if that person answers questions in such a way that might be an indicator of depression they’re informed of our other resources and are offered a warm transfer to our other resources and employee assistance program. . .We have vocational rehabilitation counselors that we can refer to that can help people work with their health care provider to figure out what kind of limitations they’re having that are preventing them from working so we can see if we can accommodate those, and for people with a lot of co-morbidity with their medical and mental health issues, we have a nurse that we will pay for ourselves assigned to that person to help them, go to their doctors appointments with them, have their providers communicating with each other, knowing what all the other treatments are that are going on. . .whatever the first point of contact is, they’re getting referred to whatever other programs would be of benefit to them.”(#14)

iii. “Most everything that is typically vendored out in other organizations, we have kept internal so far.” (#29)

iv. “Where we can, we integrate [internal EAP]. Our corporate HR department owns mandatory HR trainings, like prohibited harassment, and then in [those] trainings, I was able to integrate workplace violence prevention, suicide awareness training. Because we’re relatively borderless in this HR and all the health and wellness initiatives, when opportunities arise, it’s pretty easy for me to get in there and exert some influence. . . We’re involved in supervisor trainings, which is much easier to do when you’re internal. Since we’re all house within the medical departments, not only do we have doctors and nurses, but we have mental health people there in the occupational health clinics. So they’re involved in case staffing, helping to do fit-for-duty evaluation with the oc health doctors. . . Because we’re all internal, if someone

is dealing with a disability case that's running long and they suspect a behavioral issue, our case managers can refer right into the EAP and *do* routinely. We have a disability case manager who's a social worker who deals just with the psych cases, and every month she makes referrals in the depression management program."

v. "It's been very critical to keeping an integrated approach. It's easy to get pulled into a Western medical model, and my professional and my personal orientation is heavily on the emotional, psychological, and spiritual aspects of health and wellbeing. And I am constantly bringing that perspective into what we. And *over time* I would say it's been embraced (#6)."

vi. "One of the things that I don't have time to do is to really keep in touch with other people who are in work that I do. . . I often feel very isolated. And I'm a member of many different professional organizations, and I go to conferences, but I never met anybody in the four and a half years that I've been doing this who really has a position comparable to mine.(#6)"

vii. "I'm physically here [internal EAP]. . .That water cooler stuff is invaluable. . . The informal contact, at least in my environment, is a lot more comfortable for a lot of people, and the informal contacts outnumber the formal contacts 100 to 1, easy. . . When the person says, 'I can't work with that manager, with my fellow employees, that's the employee assistance role. We have always been able to work collaboratively [with HR] on that. . . That is not to say that the manager is always right. We've had our share of managers who for whatever reason, lack of training, lack of experience, they make mistakes, too, and we need to work with them. (#29)

B. Details about Stay-at-Work/Return-To-Work

i. "We do a monthly telephone conference with all of our U.S. nurses, and our EAP manager is part of every one of those calls. And each call has a case review where a nurse will present a case related to an EAP issue and that nurse and [a manager] will review how they handled the case and how it worked to make a referral to EAP.(#1)"

ii. "I look at some of the cases here and see lists as long as a person's arm of times people had used disability time, and looking at it as something you do once a year, in some cases. It does become part of the culture , and there's parts of the business, and some sites have this more ingrained too where behavioral health is a good way to get out on disability fairly easily, you don't have to break anything, there's no physical thing to overcome, and I think just having more involvement from the very beginning, making sure people are out and seeing treaters and all that has been good in terms of reining that in a little bit. . . I think maintaining the ongoing contact, and part of the strategy is to jump in as early as I can when I am notified of a new claim, and just make sure that people are going to treatment and just start talking about returning to work from the very beginning, as soon as it seems people can hear that message, really, if they're very disabled, but just starting to talk about return to work

and setting the stage for it from the very beginning, talking about the possibility of transitioning back, and working also with the [vendor], who manages the disability claim and gets all the medical information and helping them pose questions to the doctor that will make that return easier. Questions about, can this person do transitional work, what would that entail? We also came up with a new improved cognitive functional job profile [based on the Dictionary of Occupational Titles ]to give doctors and the Disability Center a little bit more information about what does this person do cognitively and behaviorally on their job to help decide what would make a successful return to work. . . We wanted something that was evidence based and could stand up to scrutiny, and so used the different categories there, like getting along with other folks, grooming, dealing with supervision, different math skills." (#9)

iii. "[The multi-session training on motivational interviewing reminded us] that you do at times focus on the paperwork and moving it forward and collecting medical [information] when you could really short cut the time it takes if you just stop and listen to what the employee is saying to you and ask the right questions. . .It allowed me to see that I can be a better case manager if I allow myself to do those things I was trained to do. . .I felt like it gave me permission. . . And nobody ever said, you can't focus on those human elements, but with a large case load and with the mission, it didn't feel like the right thing to do, until we had the motivational training, I was able to see it's a very integral part of doing it well. I did absolutely learn those skills, but it gave me permission to say this is what I'm missing from getting to the top of my game. . . As cliché as it sounds, that's truly why I went into this profession helping people with disabilities that other people don't see value in." (#20)

iv. "Traditional EAPs, including ours, don't do a lot with releasing employees back to work or not releasing them back to work. They don't like to get involved in that. So one of the roles the nurse case manager does, she will also work with the employees' provider to determine, and from her constant conversations with the employee, she also gets a sense of whether they're improving or not improving. Then she can update with the provider. If she's not getting specific feedback, or the person doesn't seem to be improving, then we will send to our doctor, and that's where we'll get the specificity that we may need. But even then, under the law, the *employee* would have to request the accommodation, so EEO, who reports to me, also works very closely with risk management. . . Even when you have a nurse case manager, unless you have someone who has some psych background, or who has some training in that area, you're not always going to get that in a nurse case manager, because many of them are much more comfortable with the medical arena. . . It's helping them understand, these people aren't faking, they're not working the system, you don't understand the spiral that occurs when they're sitting home, not functioning, and have a provider

who medicates and spends ten minutes with them and isn't sending them to counseling. It's trying to help them understand all that." (#24)

**Appendix E: Comprehensive Literature Review I**

Analysis of the Competing Interests of

Individuals and Workplaces in Relation to Mental Illness

Nancy W. Spangler

University of Kansas

Work is a primary life role for most adults. The workplace provides a setting where people may use their skills and talents and may receive monetary or personal rewards in return (Katz & Kahn, 1978b). Work can play an important role in developing social relationships and a sense of community (Khurana & Podolny, 2005). The work setting provides opportunities for motivating individual achievement, for building a sense of belonging, and for enhancing self-esteem (Bandura, 1977; Herzberg, Mausner, & Snyderman, 1959; Maslow, 1970).

The workplace is a social institution, constructed and operated by people. Yet, not all people are involved equally or treated in the same way in workplaces. For people with mental illness, for example, the world of work often becomes limited. People with mental illness report that work is important to them (Henry, 2003), and lawmakers in many countries including the United States (U.S.) have protected their right to work. Still, society has vacillated about how to include people with mental illness in the workplace. Individual agents in society, the social structures created through the workplace itself, and the laws and policies governing workplaces in the U.S. have variably enabled and constrained those with mental illness in obtaining and maintaining successful work roles.

This review will look broadly at mental health and the workplace from the framework of social systems theory to examine 1) the systemic nature of workplaces and other social institutions, 2) historical barriers to employment when interests of society have competed with those of individuals with mental illness, 3) legislation intended to protect employment rights of those with disabling physical and mental conditions, 4) the impact of judicial and employer

interpretation of laws, and 5) mental health treatment issues that affect employment for people with mental illness.

## Introduction

Work is known as the physical or mental effort individuals place toward producing something or accomplishing a task. Organized work has developed in modern society to serve multiple roles, and work has inherent value to society. Work provides an individual with opportunities for remuneration. Beyond financial gain, however, work can reward individuals by allowing the expression of creativity, personality, and cognitive abilities (Katz & Kahn, 1978b). Work provides opportunities for social affiliation and supportive interaction, an identity outside oneself, and a rhythm and routine that adds shape to daily life (Cheney, Christensen, Zorn, & Ganesh, 2004).

Workplaces provide many rewards to their various stakeholders. For example, corporations reward shareholders through economic output. Just as with individuals, however, the rewards to organizations go far beyond simple exchange of monetary resources. Workplaces are viewed by many people as interactive processes, activities, and patterns of social relations not simply static structures or institutions (Giddens, 1984; Katz & Kahn, 1978b; K. Weick, 1979). Workers have opportunities for decision-making, cooperative social interaction, and self gratification through work roles (Katz & Kahn, 1978b). Symbolic rewards frequently result from success of a workplace, often in the form of social status, prestige, and identification with the objects produced. Social identification with an institution such as a prominent workplace can extend to entire communities (Cheney et al., 2004).

People excluded from work roles miss these opportunities for developing a social identity and role within their communities. Backstrom (2002), an author with a disabling pain condition, describes the importance of the work role:

> [S]ociety usually views us in terms of whether we work or not, and what type of work we do. Most opening conversations between strangers include questions about work and jobs. Even between acquaintances and friends, where we work and how our jobs are going is a primary topic of discussion. When our ability to get or keep a job is compromised, we feel a strong sense of loss – of worth, of independence, of control – and often a loss of identity (p. 4).

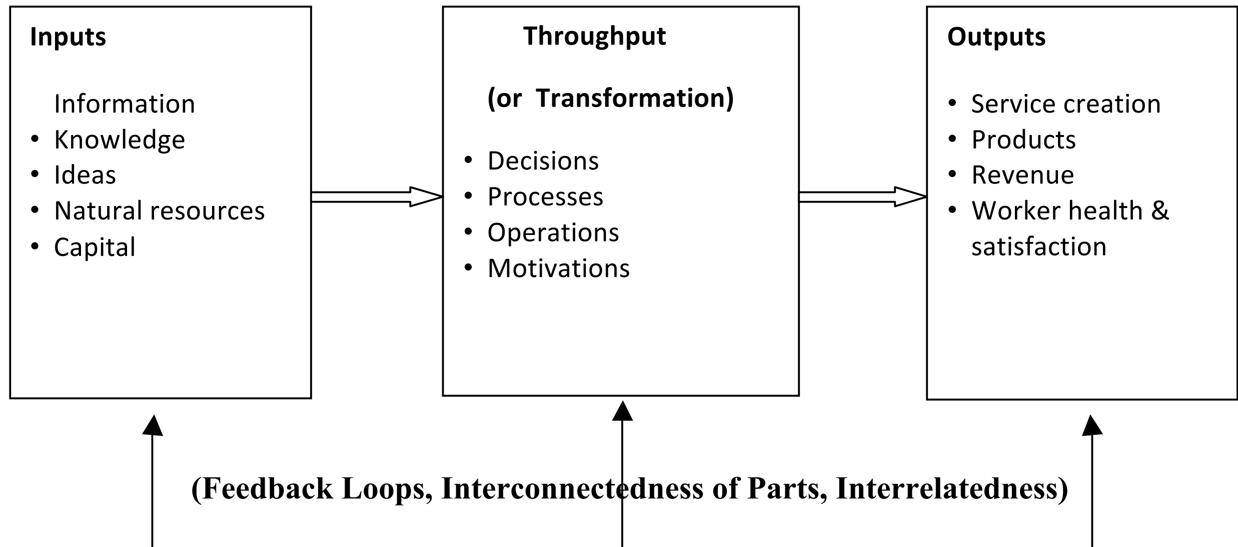
## Models of the Workplace as a Social System

Social psychologists Katz and Kahn (1978a) described workplaces and their role in society as "open systems" similar to the open system concept in the biological sciences modeled by von Bertalanffy in 1956. Viewing the workplace and other institutions as systems that change over time may help illustrate how barriers to working have developed for people with mental conditions and how some solutions have developed.

Open systems theory applies concepts of energy input, throughput, and output to explain complex social organizations like the workplace. For example, input brings energy into the workplace system through human ideas and natural resources. Throughput represents the transformation process involving communicative interaction, decision-making, and production that turns these resources into output, or products and services (see Figure 1).

Figure 1

Graphic Summary of Workplace System Components Based on Katz and Kahn's Model




Feedback mechanisms through management and leadership provide information about system functioning (Argyris & Schon, 1978) so that adjustments can be made in the workplace. Adjustments are made to the input (recruitment of personnel with different skills, for example) or throughput (adjustments in production processes, or resolution of conflicts) in order to change the output (novel items or services for the marketplace).

Each system has certain boundaries along with interdependence with the environment. Open systems theory contends that every system is composed of subsystems and each system, at the same time, is a subsystem of yet a larger system (Katz & Kahn, 1978b). Systems consist of interrelated cycles of events and activities that are ongoing.

These patterned activities build stability as the activities are “repeated, relatively enduring, and bounded in space and time,” (Katz & Kahn, 1978a, p. 122), but the same activities are never repeated in exactly the same way. This means the *steady state* of organizational systems is only quasi-stationary (Lewin, 1951). Positive and negative forces within the workplace and in the environment require constant adjustment and interdependent actions. Without this constant exchange of energy, Katz and Kahn suggest that the organization may experience disorganization, decline, or entropy (system death). In addition to looking at patterns of system components and activities, some authors have examined the social aspects of organizational systems.

*Duality of Structure*

The arrangement of work serves to organize life for large parts of modern human society. Work helps to systematize and provide structure to informal and formal social interactive rules (Pacanowsky & O'Donnell-Trujillo, 1983). The structured and stable nature of many workplaces helps make society predictable and reproducible. Yet, as sociologist Giddens (1984) describes, organizational structure has a dual nature in that it “. . . is always both constraining and enabling” (p. 25), through its rules and its resources (duality of structure). The actions of individuals within social systems are continuously changing the structure of those systems, and the organizations in turn exert intrinsic effects that change the individuals themselves, their perceptions, their attitudes, and their behaviors.

Institutional representatives continually change and adjust organizational rules in interdependent ways to produce and reproduce organized work. Through the social system of the workplace, human and material resources are coordinated and commoditized (or assigned value)

through social practices over time and space; they are reproduced in multiple locations over various geographies (Giddens, 1984; Hochschild, 1985).

Organizational rules and behavioral roles are typically based on a set of shared values, expectations, and norms which may shift over time due to the dynamic nature of systems (Katz & Kahn, 1978b). This shifting process requires an ongoing balance of the competing interests in the system, from those of individual employees to co-workers, managers, shareholders, communities, the nation, and the world.

As in biological systems, workplace systems have a tendency evolve, to differentiate and become more complex and specialized over time (Katz & Kahn, 1978b). Supportive subsystems may break off and become their own open systems that are integrated and coordinated within the larger society. Examples include technological and managerial subsystems that become subsidiaries of larger corporations. Some evolve into separate companies and compete with the system from which they originated.

Complexity also increases as organizations make overtures to maintain relations with other structures in society, such as legislative and policymaking bodies. Structuration theory holds that systemic structures are created and modified by human reflection on events (Giddens, 1984). By this theory, Giddens suggests that we view human action (or agency), not in isolation, but rather through the unique social context in which it occurs. Organizational structures make interaction possible, and individual human actions create the structure. Economic institutions, political institutions, and legal institutions interact to create a context for work through a market-based society (Giddens, 1998). Reflexive discourse (i.e., recognizing, reflecting upon, and discussing human actions) among agents in these various organizational structures provides both constancy and change over time for the individuals and the larger societal system.

In summary, workplaces are complex systems that provide structure and predictability for the social interaction required for work. In turn, interrelatedness of the components of systems allow for reproduction of organizational structures across time and space. The rules and resources in workplaces shift in predictable and unpredictable ways, enabling and constraining the people within the organizations. The following sections will discuss how social institutions and the interactive loops between the subsystem of work and the system of the society at large have affected individuals with mental illness and, in turn, the workplace itself in a number of ways. The interests of the individual and the interests of social institutions in the U.S. have continually shifted as the input, throughput, and output changed over time in various subsystems of society, such as families, schools, workplaces, legislative bodies, and judicial systems.

## Historical Contributions

Challenges to employment for those with mental illness have a long-standing history. People with mental illness have been highly marginalized by societal fears often relegated to institutional living and/or menial labor at best (Braddock, 2002). Society in the past was likely to discriminate against and isolate people with mental illness, especially people with symptoms that were obvious and potentially frightening to others. Such symptoms include hallucinations, delusions, and the disordered social behaviors common among some people with schizophrenia.

Early attribution of aberrant behaviors to sin or to witchcraft eventually led way to a belief that these behaviors were the result of illness and out of the control of the individual (Braddock, 2002). The resulting medical model and its systems of control justified keeping people with mental illness in institutions separate from the rest of the community to protect the individual, the families, and society (Szasz, 1970). Residential care for people with mental retardation or mental illness during the early 1900s was viewed as benevolence providing ". . .a

shelter, an asylum of happiness, a garden of Eden for the innocent." (Wolfensberger, 1975, p. 29).

The period from 1850 to 1925 represented a time in the United States when social structures emphasized differences between those with and without mental or cognitive impairments (Taylor & Blatt, 1999). Isolating people according to their impairments contributed to "stigma," a term describing the negative or discrediting attributes or characterizations associated with persons with differences (Goffman, 1963). Institutions themselves served to reinforce social differences. Isolating "people into tight groups, [would] give them an opportunity to teach one another the skills and attitudes of a deviant career, and even drive them into using these skills by reinforcing their sense of alienation from the rest of society" (Erikson, 1962, p. 311). Many institutions for people with mental illness were more like warehouses than happy gardens for the innocents.

Eventually, public opinion shifted and individuals expressed outrage at deplorable conditions in many institutions for "deviants," or people with mental and intellectual impairments. A growing recognition that institutional living violated basic human rights, the principles of liberty and equality guaranteed in the United States constitution, led to a progressive movement toward deinstitutionalization and enhanced national and community support and treatment.

From the 1930s to the present, society's views about individual differences have gradually shifted. The 1970s saw a period of "normalization," or moving people with differences, even those considered highly disabling, toward norms and patterns of mainstream life (Wolfensberger, 1972). As described earlier in relation to structuration theory (Giddens, 1984), perceptions of what is socially and morally acceptable change cyclically, influencing the

patterning of social relationships. Social agents draw upon new rules and resources as they produce and reproduce social systems and institutions over time. During this time, changes in social attitudes and public discourse influenced the subsystems of society, gradually reducing stigma and respecting individual rights. These changes influenced the makers of public policy and legislation and altered the employment opportunities for people with mental illness.

## Public Policy and Legislation

The United States Government, like the workplace, is a collection of socially constructed institutions. The government's legislative and judicial bodies may also be viewed as open systems, similar to workplaces. They use input (people, information, and ideas), throughput (discussion, analysis, and deliberation), and output (acts of legislation and judicial decisions). These social institutions also provide order and continuity, yet the systems themselves are changed through the addition of new ideas from new individual agents (Giddens, 1984). As social consciousness shifts and interactive discourse changes, the institutions and their outputs alter in response.

Roles, norms, and values serve to integrate, center, and bind social institutions (Katz & Kahn, 1978b), and they influence the thoughts and actions of the people within the institutions. The American public has historically valued several ethical principles that have been instrumental in shaping public policy in general as well as policies related specifically to health, well-being, and opportunities for people with physical, cognitive, and mental disabilities. Three major ethical principles include 1) *beneficence* (promoting the well-being of others), 2) *autonomy* (individual freedom of choice and action), and 3) *justice* (treating people fairly and equally) (Beauchamp & Childress, 1983; Rubin & Millard, 1991). More recently, specialists in disability policy Turnbull, Beegle, and Stowe (2001), identified additional core concepts that guide disability policy development and implementation. These include: *classification (*criteria

for eligibility for services), *capacity-based services* (remediating a person's deficits and building on their strengths), *anti-discrimination* (equal treatment and equal opportunity), *integration* (the right of community membership and participation), *protection from harm* (safety and prevention of abuse, neglect, or maltreatment), *family integrity and unity* (respect for families as a core unit of society), *privacy/confidentiality* (providing individuals and families control over public aspects of their life), *productivity/contribution* (the opportunity for meaning and contributing value to the community),*cultural responsiveness* (respect for different values, traditions, languages, and perspectives), and *prevention/amelioration* (reducing the effects of disabilities).

Americans place high value on protection of individual rights. They also highly value capitalism, economic stability, and accountability, however. Legislative and judicial decision makers frequently struggle with balancing the financial costs to society relative to guarding established ethical principles.

*Social Security System*

Initial involvement of the U.S. government in protecting people with mental and physical impairments began in the 1930s when the government established the Social Security system (Social Security Advisory Board, 2006). The government designed Social Security to assist people who were struggling economically during the Great Depression. Over the next two decades as the economy improved and jobs were more plentiful, Social Security evolved to protect those who could no longer work because of advanced age.

Policy makers also discussed delineating assistance separately to people who had impairments that kept them from working. Only people with physical disabilities were to be included in first considerations. According to disability expert Berkowitz, the planners originally intended for no benefits to be paid to those with mental disabilities (Subcommittee on Social

Security of the Committee on Ways and Means, 2000). They considered state hospitals as the source of care for most people with mental disabilities, and they worried that people with mental disabilities would misrepresent their illnesses in order to access financial benefits.

Despite an initial inclination to exclude coverage of mental disability, the U.S. Congress enacted Social Security Disability Insurance (SSDI) legislation in 1956 to provide financial support to people disabled by either mental or physical impairments that prevented them from working. This inclusion of mental impairment prompted debate over the definition of disability and qualifications of those considered disabled.

Original framers of the legislation chose to employ a very narrow definition of disability as “an impairment of mind or body which continuously renders it impossible for the disabled person to follow any substantial gainful occupation, and was likely to last for the rest of a person’s life” (Subcommittee on Social Security of the Committee on Ways and Means, 2000). With the growth of the rehabilitation field during World War II, however, policy makers focused on returning people to useful and productive lives when possible rather than permanently providing them a pension. Public discourse centered on increasing opportunities for soldiers with impairments sustained while serving their country. These discussions changed many social attitudes about disabilities; consequently, the social systems of support shifted as well.

The need to define and classify those who were eligible for services elicited a system of disability practice intended to assist people in appropriately accessing assistance through SSDI. The *classification* concept of disability policy is “frequently seen as a means by which difficult-to-serve subpopulations can be ensured of access to individualized and appropriate services” (Turnbull et al., 2001, p.137).

Two later acts of legislation, the Rehabilitation Act and the Americans with Disabilities Act, further expanded on the *classification* concept established by the Social Security process for identifying individuals eligible for support. These acts added the concepts of *antidiscrimination* and of *integration* with the intent of protecting the civil rights of people with disabilities and including them in the mainstream of social life. Section 504 of the Rehabilitation Act of 1973 (with amendments in 1991 and 1992) protected qualified individuals from discrimination based on disability in any institution receiving federal funds. The legislation specifies that disability is "a natural part of the human experience and in no way diminishes the right of individuals to (A) live independently; (B) enjoy self-determination; (C) make choices; (D) contribute to society; (E) pursue meaningful careers; and (F) enjoy full inclusion and integration in the economic, political, social, cultural, and educational mainstream of American society" (Rehabilitation Act, 1973), Sec. 706(7)B.

In 1990, the Americans with Disabilities Act (ADA) expanded on the Rehabilitation Act's national mandate prohibiting discriminating against people with handicaps. ADA defined as *disabled* a "person who 1) has a physical or mental impairment that substantially limits one or more major life activities, 2) has a record of such impairment, or 3) is regarded as having such an impairment" (Americans with Disabilities Act, 1990). The term *mental impairment* refers here to cognitive deficits and/or mental illness.

*Conflict in Classification*

While considered important legislation for protecting people with disabilities, these two acts, Section 504 of the Rehabilitation Act and the ADA, illustrate the ongoing conflict of interest between individuals and institutions. Agents of the government, an institution of society, recognized the inherent social value in being able to work. They saw people with mental

impairments as having the right to receive financial remuneration and serve a purposeful role in society. Supporters of the legislation acknowledged that impairments alone do not necessarily disable a person but instead are dependent upon the environment and context of the individual's situation.

As mentioned in the previous section, *classification* as being disabled is a process to help individuals receive the benefits and accommodations that may allow them to be successful in the workplace. In contrast, however, the very act of defining oneself as *disabled* can begin a disabling process. The progression from impairment to disability is influenced by interaction among complex biological, behavioral, and environmental factors. Individuals may bring with them to the process certain psychosocial characteristics that co-workers, managers, and family members reinforce over time. Workplace policies and practices may reduce opportunities for rebuilding psychosocial work skills after a period of extended absence. Economic factors, such as short-term disability insurance, may provide incentives for workplace absence.

> "[E]ach successive stage in the disabling process poses an increasing threat of diminished quality of life. Measures that reduce this threat – for example providing assistive technology that enables an individual to remain autonomous in at least some roles or modifying the work site to accommodate a person's limitations – can be effective interventions for preventing disability" (Pope & Tarlov, 1991, p. 10).

As the statement above illustrates, disablement is frequently viewed in terms of physical impairment rather than psychological or cognitive impairment. The definition of disability and schemas for classification originate from a medical model of differential diagnosis with an emphasis on physical parameters.

The specific protocols of care provided through disability management systems under the medical model do help many people obtain needed assistance. The medical care process, however, necessitates control by medical institutions rather than the individual and may result in dependence on systems of care rather than individual autonomy and self-reliance (American College of Occupational and Environmental Medicine, 2006).

Viewed through the lens of structuration theory, the very systems and structures enacted to enable people may at the same time set opposing constraints (Giddens, 1984). In this case, the medical system's purpose for aiding people with impairments may conflictingly limit people's opportunities as individual agents with social power in society and reduce their sense of self-determination regarding prospects for work. This process of unexpected results can be described as a structural contradiction, or a "conflict where perverse consequences ensue" following changes in social structures (Giddens, 1984, p. 13).

In other words, a new form of institutionalization for people with impairments may develop as individuals enter into a system of medical assessment and intervention. The process places power in the hands of medical personnel who may deem people eligible for assistance, set a course of action, and place them in a system of work that becomes self-limiting in the types of jobs or settings available. Power remains with the institution. *Classification* is, thus, seen by some as "intrusion of the medical profession into the social aspects of life – a 'medicalization of disablement'" (Pope & Tarlov, 1991, p. 5).

A number of factors interact in predicting the likelihood of ever returning to work following disability leave despite severity of the disabling condition. Prolonged work absence alone is disruptive to individuals' lives, their daily routines, and their sense of well-being. Research has shown that a worker's likelihood of ever returning to work drops 50 percent by the

12th week of disability absence (American College of Occupational and Environmental Medicine, 2006). Disability may serve as an enduring label, even if resolution of the impairment is achieved.

In summary, over the past 70 years policy makers have gradually increased support for people with disabilities through legislative and policy changes. Individuals with mental impairments have been included in these efforts, but the classification systems for ensuring support of eligible individuals have at times created additional problems. Interpretation of the level of impairment that must be evident in order to receive disability benefits has not been clear-cut. Classification both enables and constrains people with disabilities and may ironically encourage reliance rather than independence.

In addition to policy and legislative systems, the judicial system in the United States serves as another aspect of social institutionalization that enables and constrains actions of individuals and organizations in the workplace. Employers and workers have battled in court over several of the distinctions in classification of disability. The next section describes court cases that have challenged legislative policy and workplace practices related to classification of disability.

## Judicial Interpretations

In drafting protective legislation, balancing what is best for the individual against the collective good is rarely straightforward. Determining what is an individual's right or responsibility in contrast to the collective rights and responsibilities of employers is complex. A number of court cases related to the ADA, for example, have ruled in favor of employer interests despite legislative framers' intentions to protect employees with disabling conditions. While some of these cases did not involve mental health issues directly, they set a precedent for

interpreting future cases and several have become landmark cases for continued debate over the definition of disability. Consider the examples in Table 1.

Table 1

Court Decisions Related to the ADA

| Case | Description | Impact of Decision |
|---|---|---|
| *School Board of Nassau County v. Arline* (1973) | The Supreme Court of the United States addressed whether a person with tuberculosis, a contagious disease, may be considered a "handicapped individual" under Section 504 of the Rehabilitation Act of 1973. | Established a broader definition of disability to include contagious diseases if the condition is handicapping. However, there must be a relative assignment of risk when considering accommodations in the workplace. Employers may not put others at risk *(direct threat)* just to accommodate a disabled worker. |
| *Sutton v. United Airlines* (1999) | Twin sisters sued United Airlines when not hired as pilots because of vision impairments, contending United violated ADA by discriminating against them. Supreme Court ruled in favor of United saying lack of visual acuity disqualified the job applicants. Paradoxically, visual correction, while not allowable as an accommodation to qualify them for the job, actually worked against these | Challenged the definition of disability and brought to the surface the paradox in the concepts of *classification* and *due process*. If an individual is able to *mitigate* their impairment, they are not defined as disabled. Furthermore, employers were deemed the right to deny employment to individuals with impairments when public safety could be jeopardized. Interests of the greater public fell in line with employers' interests. |

| | | |
|---|---|---|
| | individuals as the court ruled corrective lenses served to mitigate their visual deficits, thus, they could not be defined as handicapped and protected under the ADA. | |
| *Toyota v. Williams* (2002) | Toyota fired an autoworker for poor attendance after dispute about her physical condition (carpal tunnel syndrome) and abilities to carry out newly assigned duties (increased physical labor). Worker was limited in her ability to work, garden, lift objects, and play with her grandchildren, yet she *was* able to complete household chores, bathe, and brush her teeth. This did not meet criteria for being disabled. | Challenged Supreme Court to decide just how disabled a person must be in order to be classified as disabled. Court determined an employee must be <u>*severely*</u> *limited in a broad range of basic functions* needed to meet demands of everyday life to be defined as disabled. Furthermore, the condition must be *permanent or long-term* to be considered a disability. Thus, the Court narrowed the definition of disability and limited the ability of individuals to bring future disability cases to the federal court. |
| *Chevron V. Echazabel* (2002) | A man's liver disease eliminated him from eligibility for a job that exposed him to solvents and chemicals that could be a direct threat to his health. | Established that employers may refuse to hire someone with a disability to a job that might *exacerbate their impairment.* |

| | | |
|---|---|---|
| *Baxter v. Wisconsin Department of Natural Resources* (1991) (as cited in Miller, 1997). | A state court denied an employee with severe depression a job coach to help with illness-related productivity (e.g, difficulties following through with directions), even at no cost to the employer. | While employers had been required to provide readers for people with visual disabilities and environmental accommodations for physical disabilities, the ADA's requirement of *reasonable accommodations* by employers for people with disabilities was interpreted differently for psychiatric disabilities. |
| *Bultemeyer v. Fort Wayne Community Schools* (1996) (as cited in Emens, 2006) | A worker's mental illness interfered with his ability to complete work at a fast pace in a new and intimidating work environment, and difficulties with communication due to the mental illness prevented him from requesting accommodations for the speed of his work. | Seventh Circuit court ruled employer is responsible for facilitating communication in cases where difficulty with communication is a feature of the disability and must help determine the necessary *accommodations*. |

These cases illustrate that workplace institutions still hold a great deal of power and influence, even if the framers of legislation intended to protect individuals. The landmark case *Sutton v. United Airlines* was the first instance where the U.S. Supreme Court markedly reduced the protective power of the ADA legislation by narrowing the definition of disability. *Toyota v. Williams* and a series of cases that followed found the courts favoring the employers. The sense of agency for individuals with impairments was limited in these rulings. These cases launched additional rounds of social advocacy for disability rights. As disability policy experts Stowe, Turnbull and Sublet (2006) point out:

> "The Court has diminished the core concepts of antidiscrimination, integration, accountability, and productivity by using the core concept of classification to define narrowly the scope of ADA's protection. If individuals with impairments seek ADA protections from discrimination by a prospective employer, they now face considerable additional hurdles. Do their impairments substantially affect activities central to daily life even when considering mitigating measures? If not, they may not be classified as persons with a disability who qualify for ADA protection . . . If so, the request for accommodation is unreasonable, and the ADA will offer no protection" (p. 93).

This back and forth struggle between individuals and institutions (i.e., legislative bodies and interpretation of laws by employers and the courts) is another example of the structural contradiction and the perverse consequences that frequently result from social conflict (Giddens, 1984). The rebound effect of the struggle stimulates additional social discourse around the intent and the implementation of laws. Further social advocacy becomes necessary to reduce negative, unexpected consequences.

The additional advocacy over the Supreme Court's narrow interpretation of the ADA's definition of disability eventually resulted in passage of the ADA Amendments Act (S. 3406, "ADAAA") in September 2008. ADAAA addresses the illogical bind of mitigating factors raised

in *Sutton v. United* and *Toyota v. Williams* and tips the balance back in favor of individuals over workplaces (i.e., institutions). The bill emphasizes that Congress originally intended for employers and the courts to define disability more broadly and to protect more individuals with disabilities. While the Supreme Court had narrowed the definition of disability to include only conditions that were permanent or long term (*Toyota v. Williams*), the amendment specifically covers individuals with episodic or chronic impairments (such as depression or epilepsy) as well as those conditions mitigated by medication. ADAAA also now specifies brain and neurological functions as major bodily functions, reducing the discrepancy in language describing physical and mental impairments (Thomas & Gostin, 2009).

Another example of individual agency and the forces of social advocacy in changing disability policy is the recent passage of the Paul Wellstone and Domenici Mental Health Parity Act and Addiction Equity Act of 2008 (Wellstone-Domenici Parity Act, or Mental Health Parity Act). This act updates legislation previously enacted in 1996 that required employer health plans to offer mental health benefits in a non-discriminatory way (i.e., coverage that is equal to medical/surgical coverage in cost to the employee). In practice, however, after enactment of the 1996 law, employers found ways to circumvent the intent of the law. To reduce their financial risk, many employers: 1) limited the number of covered visits, 2) increased employee out-of-pocket costs for mental health treatment, or 3) eliminated coverage for treating substance abuse, which neither qualified as a mental nor a physical illness.

In the updated Mental Health Parity Act, strict limits for mental health treatment were removed (Centers for Medicare & Medicaid Services, 2008; Pear, 2008). Now co-payments and number of covered visits for mental health or substance abuse treatments must be on par in terms of employee costs with medical/surgical benefits. Treatment limitations, such as number of

inpatient hospital days, outpatient visits, yearly treatments, or out-of-network coverage, must be covered equally as well.

Revision of this legislation was not quick or accomplished without substantial debate among stakeholders. Congressional hearings in 2002 with the American Managed Behavioral Healthcare Association included extensive support for addressing the remaining inequities and treatment limitations allowed in the Parity Act of 1996. Expert testimony cited evidence disputing employers' economic concerns of increased costs from equalizing benefits for mental disorders and pointed out "the sad commentary on societal attitudes about these disorders that we must use cost savings to justify treatment" (American Managed Behavioral Healthcare Association, 2002, p. 2). After additional debate in each successive congressional session since 1996, lawmakers adjusted the legislation near the end of 2008. Mental health advocates praised passage of the new parity legislation:

> This is a historic day and a great civil rights victory for millions of Americans who have been unable to access mental health treatment. . . With approval of this bill, we will tear down the walls of stigma and discrimination and the open the doors to the power and promise of treatment and recovery. It recognizes that mental health disorders are every bit as debilitating, and just as treatable, as cancer and diabetes.
>
> With economic problems making it even harder for Americans to afford treatment and driving up rates of depression and family difficulties, passage of this law is even more important (Mental Health America, 2008, paragraphs 5 and 6).

Revision of the ADA and Mental Health Parity Acts illustrate how individual agency and social discourse change the workplace through legislative and judicial processes and decisions. This discursive consciousness (what individuals say about social conditions) influences public opinion, raises awareness of discrepancies or perverse consequences, and changes public policy.

Swings in the interests of the individual over the institution show the "dialectic of control," or "how the less powerful manage resources in such a way as to exert control over the more powerful in established power relationships" (Giddens, 1984), p. 374. Table 2 summarizes these legislative acts and others which framers intended to protect people with mental health issues as well as some of the unintended consequences.

Table 2

Legislative Acts Protecting Mental Health

| Year | Act | Intent | Impact on People with Mental Illness |
|---|---|---|---|
| 1956 | Social Security Disability Insurance | Provided support for people with mental or physical impairments. | Created paradoxical stigma through classification and labeling and dependence on medical system. |
| 1973 | Rehabilitation Act | Section 504 of this Act is considered the first civil rights legislation for people with disabilities. | Introduced idea that meaningful work is important opportunity for all. |
| 1990 | Americans with Disabilities Act (ADA) | Defined disabilities, prevented discrimination, and required employers to accommodate those with disabilities. | Included mental disability yet accommodations focus on physical disability. |
| 1993 | Family & Medical Leave Act (revised in 2008) | Allowed leaves of absence to care for health. | Allows individuals time to manage chronic illnesses, but employers found it complicated to implement, easy for employees to misuse. Revision allows employers to get quicker and more detailed information about illnesses directly from employee, not from doctor. |
| 1999 | Health Insurance Portability & Accountability Act | Protected patient's rights to privacy and health coverage. | Reassures employees but sometimes misunderstood by managers, privacy emphasis may reduce natural discussion of |

| | | | personal issues that affect work. |
|---|---|---|---|
| 1999 | Ticket to Work Act | Attempt to expand work opportunities for people with disabilities. | High complexity, limited vendor participation, so intent not reached. |
| 2008 | ADA Amendments Act (ADAAA) | Broadened definition of disability in response to Supreme Court's narrow application | Allows individuals whose chronic illness is mitigated by medication to remain protected by ADA. |
| 2008 | Mental Health Parity Act | Requires employers to cover mental health benefits at same level as other medical/surgical coverage | Reduces stigma of separate coverage, reduces financial barriers to treatment. |

## Mental Health Care and the Workplace

Previous sections described the systemic nature of workplaces and of the socially constructed institutions that create legislative and judicial policies. The input, throughput, and output processes of these bodies require a corresponding process of input, throughput, and output as workplace systems adjust to legislative regulations. This section describes systems of care for people with mental illness and ways these systems affect the workplace.

### *Dual Systems of Health Care*

Limited understanding about biological factors in mental illness and the corresponding mental institutions that segregated people with mental illness contributed to a dual system of health care in the United States. People access care for somatic (physical) conditions through the

general health care system led by primary care physicians. Mental health care (also called behavioral health care), on the other hand, comes from many different sources. Psychiatrists and psychologists, once predominant in providing mental health treatment, now make up less than half of mental health providers in the United States (Finch & Phillips, 2005). Other providers include clergy, social workers, nurses, therapists, counselors, and lay persons. In addition, general physicians now treat many people with mental conditions, particularly depression and anxiety.

Employers and the federal government pay the largest portion of general medical care under "medical/surgical health care plans." Many large employers cover mental health care, typically through a combination of separate systems, including Employee Assistance Programs (EAPs) and a variety of behavioral health and substance abuse treatment plans. Small to medium employers are less likely to provide mental health coverage at all. Financial restrictions when employers do provide coverage have historically been greater for mental health care than for medical/surgical care, thus the proportion of expenses paid for by patients is high (Finch & Phillips, 2005). This complex dual system of care and greater financial restriction may create additional stigma and serve as barriers to care-seeking for people with mental illness (U.S. Department of Health and Human Services, 1999). The ADA Amendments Act (ADAAA) will eliminate the financial discrepancies between the two systems, but the organization of and payment for care remains largely separate.

The mental health care system, while separate, remains steeped in the medical model of the earlier mental institutions. This medicalization of mental illness and its treatment may serve to pathologize (to characterize as abnormal) some psychosocial difficulties that are, after all, common to most people at one time or another during the lifespan. Nearly everyone has

experienced a sense of anxiety or depression, for example. The distinction between a few symptoms and a full-blown clinical episode is not always clear-cut. Medicalizing (or categorizing a condition or behavior as requiring medical treatment) may reduce an individual's attempts at self-management of certain symptoms and may reinforce a sense of illness rather than health.

On the other hand, raising awareness about health conditions may help individuals cope with and take some responsibility for their illnesses. Corporate wellness programs have developed over the last 30 years to screen workers for risk factors of chronic diseases and teach employees how to change their health status. For example, worksite screenings to help identify hypertension are common and many workplaces offer education programs to help employees reduce their risks for heart disease through exercise and healthy eating. Workers are encouraged to participate in cancer detection screenings. Employees dialogue about healthy habits that may reduce risks of developing cancer. Physical health has become more tangible and conversations about health more commonplace.

In contrast, screenings for depression or anxiety are not at all common in the workplace. Only 12% of employers surveyed by the Partnership for Workplace Mental Health and Employee Benefit News (2007) responded that they actively recommended screening for mental illness while over 70% actively recommended blood pressure checks and mammograms. Instruction in ways to build psychosocial skills or to recognize and reduce personal triggers for mental conditions is very rare. Stigma and shame about mental illness may play a role in limiting discussion of these conditions at work. Employees may fear that revealing their mental illness at work would jeopardize their continued employment or opportunities for advancement. In

general, there are fewer educational resources for mental health in the workplace, and employees are frequently unaware of any resources that do exist (Charbonneau et al., 2005).

*Other Types of Support*

Other types of support outside the health care system also address mental illness. For example, legislation such as the Rehabilitation Act (1973) and ADA (1990) established expectations that employers would hire more people with mental disabilities. Framers intended that people work outside of mental institutions and become more integrated in the social system of the community. Service capacity has expanded beyond medical professionals in institutional settings to vocational rehabilitation professionals in community settings. This system, however, has tended to create jobs for people with disabilities that are menial and low paying. The process to qualify has been slow and arduous. In a report by the National Alliance for the Mentally Ill (Noble, Hongerg, Hall, & Flynn, 2006), the authors strongly criticized the federal-state vocational rehabilitation system. The system has provided fewer meaningful jobs to people with mental illness than to participants with physical disabilities and mental retardation. Once a person with mental illness enters the vocational rehabilitation system, they tend to remain in that system, rather than move on to more mainstream work. The Alliance further concluded that incentive systems for counselors were inadequate for serving consumers with complex needs due to severe mental illness who may lose touch with reality or experience hallucinations or delusions.

Additional legislation, The Ticket to Work and Work Incentives Act of 1999, established new employment service providers, or Employment Networks (ENs), for returning those on Social Security disability rolls to work (Ticket to Work and Work Incentives Advisory Panel, 2004). This program has not been as successful as initially anticipated. The original intention of

building systems capacity, or expanding availability and skills of service providers, has not been fully realized. Conveners of a strategic planning meeting with multiple stakeholders in 2005 identified strengths and weaknesses within the system and summarized suggested changes (Ticket to Work and Work Incentives Advisory Panel, 2006/2007). Suggestions included addressing employers' low expectations of skills and abilities for people with mental illness, intervening earlier, and simplifying participation requirements for those with mental illness and the support service vendors.

Both the vocational rehabilitation and Ticket to Work systems operate outside of the mainstream of typical work settings. This limits opportunities to interact with and to become part of the wider workforce and society. Other programs have been designed to help individuals with serious mental illness work in more typical settings (i.e., competitive jobs, not segregated workshops) with the help of job coaches, arranged transportation, and assistive technology (U.S. Department of Labor Office of Disability Employment Policy, 1993). Known as "supported employment," these approaches offer ongoing supports in natural environments (i.e., from supervisors and co-workers, rather than mental health service providers) to facilitate longer-term job retention in more mainstream work roles (McGurk, Mueser, & Pascaris, 2005). Other strategies for enhancing work opportunities for those with mental illness include the Clubhouse and Assertive Community Treatment (ACT/PACT) models that reach out to support individuals with severe and persistent mental illness in community settings. Both models show promise in reducing the need for hospital treatment and engaging individuals in more stable competitive employment by providing greater social support and linkage to community resources (Latimer, 2005). Assistance with transitional employment, money management, and social interaction

skills are frequently included. Support is offered around the clock when most needed by the client rather than when convenient for clinicians.

*Perceptions of Mental Illness*

Social discourse based on perceptions, beliefs, and fears about people with mental illness may contribute to reduced opportunities and closed systems for work. For example, stories about individuals with mental illness who commit violent acts, such as murdering a supervisor, receive strong media attention while little attention is given to people who are adapting well despite mental challenges (Wahl, Wood, & Richards, 2002). The public, in turn, tends to generalize disorderly behaviors associated with certain serious and persistent mental illnesses, such as schizophrenia, to all people with mental difficulties.

In most cases, such fears are exaggerated. People with a mental illness have only a slightly higher risk (3-5%) of committing a violent act (Friedman, 2006). However, substance abuse and untreated active symptoms, such as acute psychosis and paranoid thinking, greatly increase the risk of violence. For this reason, authorities recommend early identification and treatment for substance use disorders in the workplace as well as policies for addressing threatening and/or violent behaviors (American Psychiatric Association, 2002).

Society widely perceives individuals with mental illness as displaying noticeable and overt behaviors. The most common mental conditions in the workplace, however, are depressive and anxiety disorders (Langlieb & Kahn, 2005). These disorders have symptoms that are not highly obvious to other people or even readily recognizable to the individual. The next section describes issues related to these frequently occurring conditions.

*Depression and Anxiety*

Depressive and anxiety disorders are highly prevalent and can be as debilitating as any major chronic illness, yet they frequently go unrecognized. These disorders are often co-morbid with other disabling medical conditions, such as back pain, cancer, or heart disease. The mental health component is largely unrecognized in such situations as both patient and physician frequently focus on physical symptoms and causes without exploring potential psycho-social and emotional contributions (Langlieb & Kahn, 2005).

Reports from the United States Surgeon General (U.S. Department of Health and Human Services, 1999) and the World Health Organization (2002), describe depression as a major public health problem affecting major facets of life, including work attendance and performance. Productivity losses of up to 20% have been attributed to behavioral changes commonly associated with depression, including poor concentration, difficulty with memory and decision-making, fatigue, and lowered self-confidence (Greenberg et al., 2003). Other symptoms, such as withdrawal, flat affect, and problems with cognitive processing can reduce social interaction with others and increase marginalization of people with these traits.

The diagnosis of depression alone, without any knowledge of the individual or the person's abilities, may create stigma that could have a negative impact on employment. Glozier (1998) found 58% of human resource personnel students in Great Britain reported they would *never* hire someone they knew had been diagnosed with depression while only 3% reported they would not hire someone with diabetes. Workplace education for managers describing the expected abilities and limitations of people with depression and the provisions of the ADA legislation might help change such attitudes.

*Systems of Care for Commonly Occurring Conditions*

For depression and anxiety disorders, the general health care system has become the *de facto* mental health care setting. Care and prescribing of psychopharmacological drugs occurs most commonly through general internists, primary care, or family physicians, rather than by psychiatrists (Finch & Phillips, 2005; Kessler et al., 2003; Wells et al., 1989). In some ways, this may be a positive change. Visiting the family doctor for management of depression right along with the common cold or rash may normalize treatment and reduce possible stigma associated with seeing a psychiatrist.

On the other hand, not all primary care physicians are well prepared to treat mental illness. Few physicians or even mental health clinicians are thoroughly trained in the therapeutic aspects of work and the positive role that work may play in mitigating the progression of disability (American College of Occupational and Environmental Medicine, 2006). Patients may fare better with the addition of a specialist, such as a psychiatrist, at least in consultation with the primary care doctor (Gilbody, Whitty, Grimshaw, & Thomas, 2003). Specialists with training in concepts of disability management and prompt return-to-work may be especially helpful.

Many people seek treatment from primary care physicians for the physical complaints that may accompany depression or anxiety, while the underlying psychosocial contributions are under-recognized. This may be because medical practice and society are more attuned to treating these physical factors (which may include gastrointestinal pain, musculoskeletal pain, difficulty sleeping, or fatigue) rather than the co-morbid psychosocial problems.

Somatization disorder (the continued seeking of physical explanations for emotion-based symptoms) is a chronic and debilitating condition. Lost work time and health care expenses may be as much as 6 to 14 times higher for people with somatization disorders than for the average

person (American Psychiatric Association, 2000; Smith, Monson, & Ray, 1986). Furthermore, medical treatment tends to be clinic-based. This approach and setting prevents consideration of an important aspect of mental health, the influence of context (Waddell & Burton, 2006). The social, emotional, cultural, and environmental contributions to health may play central roles in supporting work performance (Health Work and Well-being Programme, 2008). These contextual contributions are often unexplored during a typical encounter with an internal medicine physician.

Testing often reveals no underlying cause in people with somatizing disorders and may be costly and counterproductive. Some experts, therefore, suggest psychiatric screening occur earlier rather than later in the process (Langlieb & Kahn, 2005). This could take place in primary care, but it also can be accomplished through population-based workplace screenings, disease management programs, and/or earlier identification of psychosocial contributions in workers compensation and short-term disability cases (Couser, 2008). In addition, medical model approaches that rely on biological treatments often ignore equally effective behavioral treatments. Cognitive behavioral therapy (CBT), for example, is equally effective to pharmacotherapy for many people with depression (Markowitz, 2008). CBT-based interventions provided in the context of the workplace may help patients identify potential psychosocial triggers to the somatization process and possible solutions.

*Accommodating Workers with Mental Conditions*

Psychosocial impairments frequently are “hidden” disabilities with symptoms that are not readily apparent. These hidden disabilities present challenges for disability policy makers, employers, and mental health service providers to address adequately because the conditions are difficult to identify and people tend not to seek treatment for them. This is particularly notable

for symptoms that are context-specific or occur primarily under certain conditions. Examples include panic attacks that occur in response to stressful situations, cognitive changes associated with depressive episodes that affect problem-solving skills, or reduced attention levels when the employee encounters excessive environmental noises. Some symptoms may wax and wane or may become increasingly chronic or disabling over time (Berndt et al., 1998; Bilsker, Gilbert, Myette, & Stewart-Patterson, 2004; Goetzel, Ozminkowski, Sederer, & Mark, 2002; Kahn & Langlieb, 2003). Workplace managers and academic researchers have limited experience in applying strategies to support workers with subtle and unpredictable psychosocial and emotional impairments.

Mental illness has neurophysiologic and organic correlates, yet diagnosis and classification still focus on highly specific behavioral symptoms rather than biological markers. In addition, as stated earlier, much of the language used in the ADA reflects physical conditions more strongly than mental conditions. Korn (2003), a legal writer, suggests the ADA language may have biased judicial authorities to view disability solely as a physical limitation with little consideration for cognitive, social, and emotion regulation abilities. These skills are vital to an employee's successful experience in the workplace. They allow workers to participate in the valuable transformation process of workplace systems, particularly communicative interaction and decision-making. The recent ADAAA legislation broadened the interpretation of disability but did not delineate these specific types of psychosocial-emotional skills in examples of major life activities. It remains unclear how employers will incorporate the intent of this protection in the future.

Perhaps a factor inherent in the court decisions prompting ADA amendment is a belief that many people with mental disabilities are being manipulative, misrepresenting the extent of

their impairments and trying to be paid for work they would rather not do (i.e., making fraudulent claims). Claims adjusters for the employer's disability insurance company often have the most frequent contact with employees who take disability leaves, but they may not be best prepared at facilitating a successful return-to-work for people with mental disabilities. While the U.S. Bureau of Labor website described in 2006 that training for claims adjusters might commonly include recognizing, preventing, and investigating fraud, it did not list training for such skills as understanding human behavior or helping clients to build self efficacy or motivation to return to work (United States Department of Labor Bureau of Labor Statistics, 2006).

Practically speaking, accommodating mental disabilities does add complexity for employers. Cognitive, psychosocial, and emotional accommodations are not as straight forward as physical accommodations, such as widening a door or adding a ramp for people in wheelchairs. Miller (1997), an employment law specialist, suggests that "(n)on-physical accommodations such as flexible scheduling, time off for therapy, or increased supervision and positive feedback are more likely than physical accommodations to be seen as favorable treatment or as something everyone will want if they can get it. . . As difficult as physical barriers are to get past, the social barriers to full integration of people with disabilities are the most pervasive and pernicious" (p. 18).

Employers must consider the unique features of mental illness and accommodate employees' periodic changes in behavior or cognitive processing. These social and behavioral kinds of accommodations are challenging, however. How does an employer allow one worker to arrive later in the morning because her depression medications make her groggy without explaining the reason to other workers or allowing them the same scheduling flexibility?

Employees must identify themselves as disabled, at least to direct supervisors, in order to receive the accommodations protected by one form of legislation (ADA). In doing so, employees then forego privacy that other legislation (HIPAA) is designed to protect. Supervisors must not reveal private information about the employee's condition to other workers, but misunderstandings about accommodations may result if co-workers perceive accommodations as simply favoritism or preferential treatment.

## Summary

People with mental illness face many challenges that go far beyond the illness itself when attempting to find meaningful employment and succeed in work roles in the U.S. Such individuals face a long-standing history of stigma and intolerance for differences. People with mental illness also face challenges to successful work due to the systemic nature of social institutions such as workplaces, the legislative system, and the judicial system. Even individuals without disabilities may struggle to fit into our complex social systems with their constantly changing rules and resources. Having a mental disorder makes the process even more challenging.

Advocates for people with mental illness have made considerable efforts to include people in the mainstream of social life by opening doors to the workplace. U.S. legislators created laws to protect individuals' rights and to lay groundwork for assisting people with impairments. The supports, however, have paradoxically limited the type of work available and the control individuals have over their work. This is particularly true for people with severe and persistent mental illness. People with less severe mental illnesses often struggle to fit into mainstream work if symptoms interfere with cognitive or social-emotional abilities. Such individuals may receive insufficient care or support to help them in their effort.

Employers also face challenges in keeping the workplace running and maintaining a healthy, productive, and satisfied workforce. Employee work performance – the output of the workplace system – may suffer if individuals with mental illness are inadequately treated. The financial output of the workplace may decline through decreased productivity and increased health care costs, especially if treatment providers ignore the mental component of co-morbid physical conditions. Many managers struggle with ways to accommodate workers who have subtle symptoms of mental illness, to respect employee privacy, meet expectations of other workers and managers, and still preserve the work process.

Historically, modifications in the social systems described have occurred through change in social attitudes and discourse. Many states have closed large mental institutions. Care within the community and the family has increased. In accordance with structuration theory, workplace practices and judicial interpretations in response to recent legislation have produced unintended consequences. The original ADA legislation protected individuals, judicial interpretation tended to protect employers, and ADAAA legislation restored a balance between interests of individuals and employers. The advocacy process of the future can take advantage of historical accomplishments in shaping social discourse and in balancing the interests of individuals and social institutions. Yet unanticipated consequences will continue to occur in the future. The systemic nature of organizations suggests that components are never stable for long.

Workplace systems routinely focus heavily on the economic output process. The physical and mental health outputs "are usually among the 'unintended' effects of organizational life, however, or at least they stand low in the list of organizational priorities. . . seldom measured, seldom counted, and almost never included in the major accounting procedures of organizations" (Katz & Kahn, 1978b, p. 578). Perhaps greater attention on the workplace system components of

employee health, positive work routines, and satisfying social relationships is warranted (Health Work and Well-being Programme, 2008). Greater understanding of the effect of these factors on stability in the larger social system would be valuable.

Changing the predominant emphasis on economic output would require workplace executives and managers to alter their thinking about their organizations and the people in them. Organizational leaders in the U.S. are more accustomed to discussing the work itself rather than possible broad social outcomes. Organizational scholars Weick, Quinn, and Sutcliffe (1999; 2006), however, do recommend increased mindfulness of the thinking and decision-making routines in organizations. They call for interaction and dialogue about organizational thinking processes and greater attention to how past experiences in work teams influence group thinking. Others suggest that managerial leaders pay greater attention to the organization's enduring purpose and values and balance short-term efficiency concerns against meaningful action (Khurana & Podolny, 2005).

The work of our legislative leaders suggests our society values opportunities for people with differences of all kinds, including mental illness. Ensuring that organizations respect those values and provide all qualified individuals opportunities in the workplace will require that future organizational leaders have a broader understanding of social systems. Leaders will need to communicate this understanding to managers and supervisors and support effective workplace accommodations for workers with mental illness. They will need to recognize the value of behavioral health care and ensure its quality and availability for employees. They will need to model personal and organizational practices that support mental well being.

Education and social discourse over the past two decades have established more inclusive and supportive practices for many people with varying abilities and capacities for employment.

History suggests that continued advocacy and individual agency will be required and may very well be successful in creating broader work opportunities for people with mental illness.

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Appendix A

Glossary of Terms

*Accommodation* – Adaptations or adjustments to tasks, timing, or the work environment that allow a person with a disability to work. Required under the Americans with Disabilities Act (ADA) and the Rehabilitation Act of 1973.

*Classification* – A means for identifying individuals eligible for assistance or support due to impairments that are disabling and limit one's ability to work.

*Disabled* – a person with physical and/or mental impairments that limit self-care and work abilities.

*Disablement process* – Conditions or experiences that reduce physical or mental abilities over time.

*Dual systems of care* – Separate systems of health care that provide services either for medical/surgical treatment or behavioral/substance abuse treatment.

*Impairment* – A weakened, damaged, or deteriorated physical or mental condition due to injury or illness.

*Individual agency* – Freedom to take actions or make choices; empowerment.

*Medicalization* – Identifying a condition as requiring medical treatment or oversight.

*Mental condition* – A state of being that is related to or explained by mental illness.

*Mental disorder or illness* – A behavioral or psychological syndrome or pattern that is distressing or disabling for the individual; frequently defined by a specific set of criteria.

*Mitigating measures* – Medication, behavioral modification, or assistive technology (other than standard vision correction) that reduces a person's otherwise disabling condition.

*Normalization* – Reduced segregation of people with physical or mental conditions from the rest of society.

*Open systems* – Complex organization and interaction of parts of a system with its environment; Continual stages of input, throughput (transformation or processing), and output in balancing and adaptation of a system.

*Perverse consequences* – Unforeseen or unexpected results of individual, organizational, or societal actions.

*Serious mental illness* – Disorders with severe symptoms, such as psychoses or hallucinations, or long-lasting consequences, such as homelessness or unemployment. May include schizophrenia, chronic major depression, borderline personality disorder, and obsessive compulsive disorder.

*Social advocacy* – Active support of or intercession for a cause or idea.

*Social discourse* – Sharing of thoughts and ideas about social behaviors or conditions through interactive dialogue and/or print or electronic media.

*Somatization* – Physical symptoms, distress, and careseeking behaviors that have emotional or psychological origins.

*Stigma* – negative, discrediting, or disgracing attributes or characterizations of a person; a sign of abnormality or moral failing.

*Structuration* – Production and reproduction of social systems and organizations through interaction of individual agency and structural rules and resources.

## Appendix F: Comprehensive Literature Review II

Stress-related and Mood Disorders in the Workplace

Nancy Spangler

September 20, 2009

## Introduction

Psychosocial stress and mood changes are common to everyone, an inevitable part of life. When the stress responses or mood changes become excessive, however, they may disrupt an individual's daily function. Work abilities and social interaction often suffer. Employers worldwide increasingly are concerned about stress and depression because of the associated economic burden due to lower work output along with higher disability rates, medical costs, and employee absence.

For example, the British Health and Safety Executive, an agency similar to the Occupational Safety and Health Agency (OSHA) in the United States, found that at least half of all days lost in the United Kingdom were due to stress-related illnesses (Leontaridi & Ward, 2002). In the U. S., depression was recently identified as the most costly condition among a group of 10 large employers when combining medical, drug, absenteeism, and presenteeism (or on-the-job-time lost to health conditions; Loeppke et al., 2009). These and other researchers have found that the loss of work performance related to depression is the largest component of cost to employers (Stewart, Ricci, Chee, Hahn, & Morganstein, 2003).

Investigations of stress-related disorders and mood disorders, the broader category under which depression falls, have expanded greatly in the last decade. Scientists in a number of disciplines, including physiology, psychology, neurobiology, and cognitive sciences, have studied these conditions and determined that depression is often a progressive and recurring disorder, influenced by psychosocial stress, and that it frequently co-occurs with physical conditions (Arnetz & Ekman, 2006; Beck, 2008; Charney & Manji, 2004). Researchers know less about bipolar disorder, the other category of mood disorders, but they are finding that it too has a typically chronic course and is influenced by stress (Kim, Miklowitz, Biuckians, & Mullen,

2007). Research on causes and interactions of these conditions is critical for helping employers better understand the impact stress and depression may have on workers' cognitive abilities, social skills, and work performance and the potential role of intervention in preserving these abilities.

Intervention research has improved as well. Advances in pharmaceutical development, particularly in the treatment of depression, have helped many people to reduce negative symptoms, to maintain the ability to work, and to remain engaged in social aspects of their lives. Other therapies, including psychotherapy, have been successful in helping people with stress-related difficulties and mood disorders (Markowitz, 2008; Richardson & Rothstein, 2008).

Interventions, however, are underused and effective only for a portion of patients (Langlieb & Kahn, 2005). Furthermore, fewer than half of the people diagnosed with major depression seek treatment (Harris, 2004). Behavioral health support services and care systems are poorly understood and underutilized by employees (Charbonneau et al., 2005). The practices for diagnosing and treating mental illnesses are complex and may be confusing for health care consumers. In addition, stigma related to mental conditions may delay or reduce accessing care (Laxman, Lovibond, & Hassan, 2008).

Because stress-related and mood disorders substantially affect workplaces, employers should have a thorough understanding of these conditions, their interactions, the ways the disorders commonly affect workers, and current trends in diagnosis and treatment. This review will cover such issues as well as newer areas of research that examine how some individuals, even when faced with much adversity, tend to be more resilient and resistant to the negative aspects of stress and depression. The paper will conclude with a discussion of how organizational issues may affect workplace stress and mood disorders.

## Overview of Stress and Resilience

The study of stress is often attributed to the work of Cannon (1932), who coined the term fight-or-flight response for the way the body prepares itself to mobilize for action or retreat when survival is threatened (Quick & Spielberger, 1994). Selye (1956) furthered the study of stress as a physiologic reaction. He defined *stress* as a non-specific, or generalized, response of the body to a demand placed on it and defined the demands or threats as *stressors.*

Selye was the first to acknowledge that positive stressors, defined as *eustress,* create physiological demands in the same way as negative stressors, termed *distress.* He delineated the response to either type of stressor as the *general adaptation syndrome,* which consisted of three phases. These include the 1) Alarm reaction – immediate physiological changes involving arousal of the sympathetic nervous system, such as increased heart rate, pupil dilation, digestive system changes, 2) Stage of resistance – body's attempt to recover from alarm and return to physiologic homeostasis, and 3) Stage of exhaustion – body's adjustment or adaptation to long term continued exposure to excessive demands without recovery resulting in physiological and irreversible bodily damage.

Over time, the general public as well as many researchers have come to use the term *stress* in the way that Selye used *stressors* (i.e., as a stimulus for response), whereas Selye defined stress as the physiological process. This has created some confusion in terminology over the years, but currently the term stress may be used interchangeably for either the stimulus or the physiologic process.

Over the next several decades, stress research began to expand to several areas of study. Some examined the health consequences of prolonged stress and recommended ways to reduce

physiologic reactivity to stress. Researchers found that stress contributes to increased incidence of heart disease, cancer, pain, psychiatric disorders, and even the common cold (Benson & Proctor, 1985; Cohen & Tyrrell, 1991; Eysenck, 1991; Friedman & Rosenman, 1974). See Table 1 for a chronology of researchers and practitioners who contributed to theory development and/or who designed interventions that are commonly used to help individuals recover from the stress response.

Table 1

*Chronology of Early Stress Researchers*

| Year | Person | Primary Focus |
|---|---|---|
| 1915 | Walter Cannon, MD, physiologist | Identified stress reaction as fight-or-flight response to threat |
| 1938 | Edmund Jacobson, MD, physician | Developed a form of progressive muscle relaxation, also called neuromuscular relaxation, to help his patients recover from illnesses |
| 1953 | Johannes Schultz, MD, psychiatrist | Developed an autohypnotic relaxation method called autogenic training by eliciting heaviness and warmth in limbs |
| 1956 | Hans Selye, MD, PhD, endocrinologist | Described stress as a three-part physiological process, called the general adaptation syndrome, that occurs in response to stressors |
| 1966, 1989 | Richard Lazarus, PhD/Susan Folkman, PhD; psychologists | Conceptualized stress as physiological and *psychological* influences that exert pressure on the person exceeding their capacity to respond; first to provide empirical evidence for the influence of the person's *appraisal, or interpretation,* of a situation on his/her emotions; Developed scale to measure everyday hassles and uplifts |
| 1967 | Thomas Holmes, MD & Richard Rahe, MD; psychiatrists | Developed a scale to measure minor/major and positive/negative life events and studied corresponding onset of illness |
| 1974 | Meyer Friedman, MD & Ray Rosenman, MD; cardiologists | Noticed consistent behavioral pattern, which they termed Type A behavior (hard-driving, aggressive, competitive, time urgency, hostility), common to |

| | | |
|---|---|---|
| | | patients with heart disease; later research found hostility to be key factor and social support to be a moderator |
| 1975 | Herbert Benson, MD, cardiologist | Developed a Westernized version of meditation common in Eastern religions for his patients and called it the Relaxation Response |
| 1979 | Aaron Antonovsky, PhD, sociologist | Contributed to understanding of how personal disposition and a *sense of coherence* about life allows some individuals to be more resilient to stress |
| 1988 | Hans Eysenck, PhD, psychologist | Suggested genetic predisposition and environmental factors interact with stress to produce pathology; cancer-prone personality and heart-disease personality |
| 1991 | Sheldon Cohen, PhD, psychologist | In studying individual differences in susceptibility to the common cold found that stress, especially long-term or severe stress, played an important role; social ties reduced the risk |
| 1999 | Ronald Melzack, PhD, psychologist | Known for his original work in the 1960s on the *gate theory of pain*, more recently proposed a *neuromatrix* model of stress and pain that considers genetic influences and prolonged activation of the stress regulation system that influences pain perception and a cycle of pain-stress reactivity |

Other investigators have studied the differential ways that individuals respond to stressors. Lazarus described that stress is subjective and that individuals appraise, or interpret and assign meaning, to situations differently. What one individual might interpret as a disturbing or threatening event, another person might not even notice (Lazarus, 1966). Researchers have

also studied how certain individuals are able to maintain or regain psychological and physical well-being after experiencing traumatizing life events, such as abuse, natural disasters, or war, (Charney, 2004; Hjemdal, Aune, Reinfjell, Stiles, & Friborg, 2007; McEwen, 2004; Rutter, 1985; Yehuda, 2002).

This successful adaption to severe or chronic stress is described as *resilience* (Haglund, Nestadt, Cooper, Southwick, & Charney, 2009). Factors that appear to influence resilience include positive affectivity (joyfulness or contentedness), optimism, cognitive flexibility (reappraising or reframing events in a positive view), adaptive coping abilities, social support, mastery (or belief in one's abilities), and emotion regulation (Charney, 2006).

## Neurobiology of Stress and Resilience

Studies of stress using either animal or human models consistently support the concept of susceptibility to life stressors. Acute stress elicits a cascade of responses from the central and autonomic nervous systems in order to prepare the organism for fight, flight, or freeze. The latter component – freeze – was added to Canon's original conception of fight or flight to reflect an additional mammalian survival response (Bracha, Ralston, Matsukawa, Williams, & Bracha, 2004). The stress response may occur in response to physical or psychological threat, or to actual physical injury, infection, or other biological upset (Melzack & Katz, 2004).

The acute stress response begins with processing of the perception of threat through activation of key portions of the limbic system (the amygdala and hippocampus) as well as higher cortical centers, (especially the prefrontal cortex) and lower vegetative areas (McEwen, 2009). The amygdala arouses attention to sensory input and aids in memory of previous threats, especially emotion-laden events. The hippocampus aids in accessing cortical regions quickly, to compare current events to similar previous contexts in order to elicit an appropriate response.

The sympathetic nervous system is activated simultaneously, upregulating activity in the the hypothalamic-pituitary-adrenal (HPA) axis and prompting release of neurochemicals and hormones that support bodily action for defense or repair from potential injury that could occur during fight or flight (Hawkley et al., 2005; Raison & Miller, 2003). Specifically, the hypothalamus produces corticotrophin-releasing hormone (CRH), which is carried through the bloodstream to the anterior pituitary gland (Melzack & Katz, 2004). The pituitary glands release adrenocorticotropin hormone (ACTH) as well as glucocorticoids (cortisol) needed for muscular contraction. Norepinephrine released by sympathetic innervation of the heart supports increased heart rate needed for blood supply to muscles and organs. Increased thyroid activity also helps with these functions. Production of cortisol supports increased metabolic needs and acts on the immune system, thus preparing the body for fight or flight. Acute stress induces increased blood pressure for adequate blood supply as well as increased blood clotting and circulatory occlusive factors to reduce blood loss and fibrogen activity to repair body tissues in the event of injury (McEwen, 2004; Vale, 2005). In the short term, increased immune system activity elicited by acute stress helps protect against pathogens that might invade the body during a physical attack and produce infections.

The adaptive responses that are protective to the individual in acute stress have paradoxical pathophysiological effects under chronic stress conditions. Sustained elevation of blood pressure contributes to atherosclerotic plaque development, damage to coronary artery walls, and myocardial infarction (McEwen, 2009). Glucocorticoids help sustain energy reserves in the short term and serve as a negative feedback loop to the HPA axis to shut it down and return the body to homeostasis. Under long-term stress, however, target tissues may be affected, such as cell death in the hippocampus. Systems that glucocorticoids typically help to regulate

may become insufficient, such as the immune system, resulting in increased risk of infection, or metabolic processing, contributing to diabetes or osteoporosis (Hawkley et al., 2005; Raison & Miller, 2003).

Immune system over-activation and excessive cortisol production may contribute to inflammatory processes due to excess upregulation of cytokines or other mediators of cell communication. This may contribute to the development of numerous physical impairments. For example, researchers have found associations between chronic fatigue syndrome, multiple sclerosis, lupus, and fibromyalgia and chronic stress (Ekman & Arnetz, 2006; Melzack & Katz, 2004; Raison & Miller, 2003). In conditions such as these, individuals may become increasingly sensitized to pain registration and may begin to alter their behaviors in a maladaptive manner as they pay increased attention to pain sensations or conditions that could elicit pain. While responses are variable, reductions in physical and social activity levels are common in people with chronic pain conditions as are changes in the affected individual's self-perception and perceived quality of life (Skevington & Mason, 2004). The person's ability to work or their relationships at work may suffer.

Disruptions in glucose metabolism related to chronic stress may also play a factor in osteoporosis, metabolic disorders, abdominal obesity, and diabetes (Vale, 2005). Increased immune system activation plays a role in sensitivity to histamine responses and allergies (Glaser & Kiecolt-Glaser, 2005), and increased inflammation occurring with stress contributes to several digestive disorders that are disabling in nature, including irritable bowel syndrome (U.S. Department of Health and Human Services, 2007). These chronic conditions are responsible for many lost hours of work.

Repeated stress results in functional and structural changes in several brain structures, including the amygdala, hippocampus, and prefrontal cortex (McEwen, 2009). These changes may contribute to post-traumatic stress, depression, bipolar disorder, and memory and learning problems (Ekman & Arnetz, 2006; Vale, 2005). A neurobiological model of memory control has been advanced to explain how some people who have experienced severe trauma may recover emotional stability. This model suggests that the prefrontal cortex helps to disengage hippocampal activity in order to repress some difficult memories and to allow adaptation and coping responses (Rosenbaum & Covino, 2005).

Genetic factors, traumatic events, or neglect in early life can influence the stress-induced activation of the HPA axis, resulting in higher responsiveness of physiological and psychological activities as well as maladaptive behaviors (Heim & Nemeroff, 2001; Romeo & McEwen, 2006). Figure 1 depicts these moderators. On the other hand, research has also found that individual, environmental, and experiential differences help to modulate physiological responses and may help individuals be more resilient to stress.

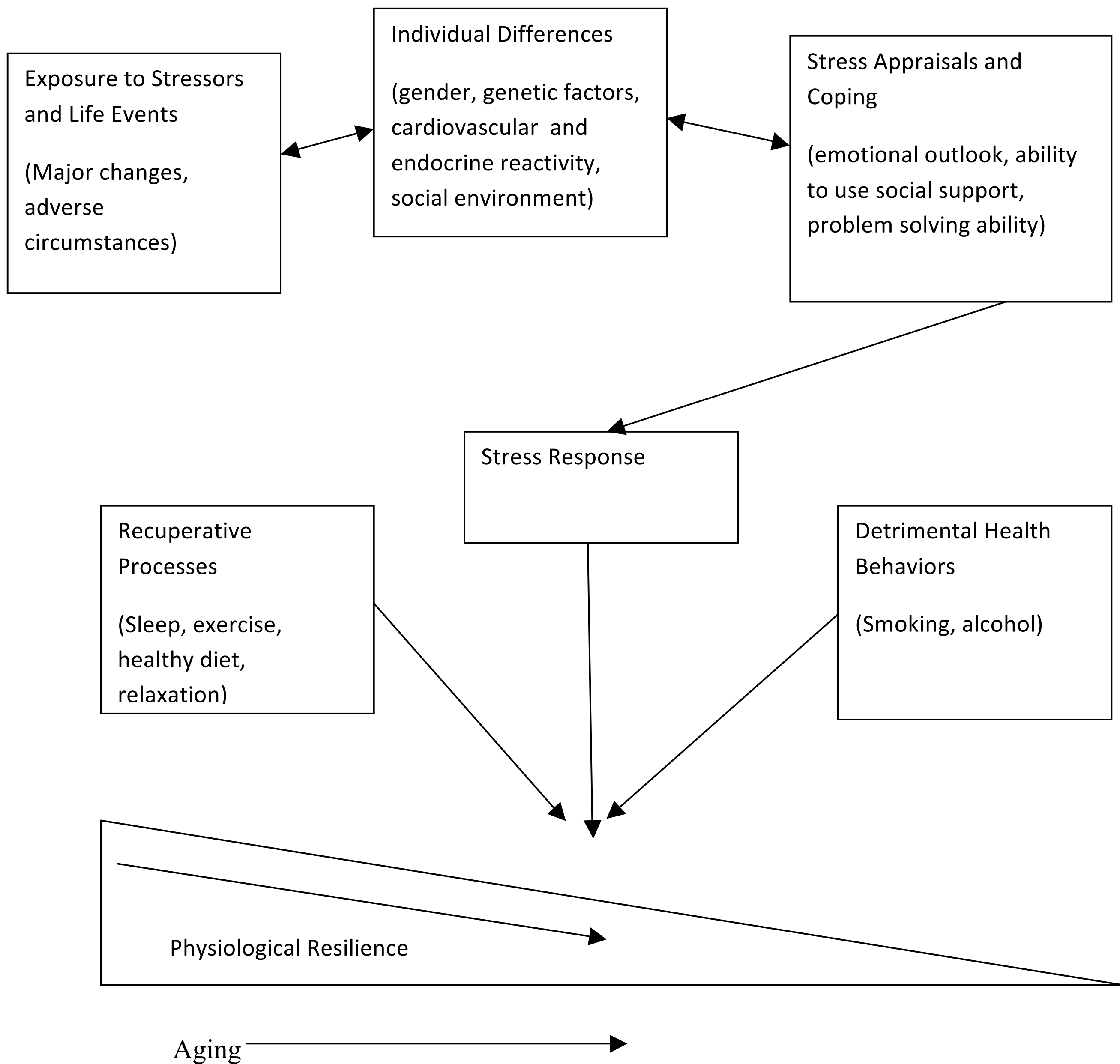


*Figure 1.* Influences on Physiological Capacities: Physiological resilience is influenced positively and negatively by a number of factors. (Adapted from Hawkley et al., 2005, p. 117)

## Stress-related Disorders and the DSM-IV

One aspect that complicates research and intervention in the area of stress is the system of categorization around which diagnosis, treatment, and reimbursement are organized for psychiatry and most other behavioral health professionals. The American Psychiatric Association's (APA) Diagnostic and Statistical Manual of Mental Disorders (DSM) has become the gold standard for diagnosing all mental disorders. The practice of collecting statistical information and classifying mental disorders originated with a single category of idiocy/insanity in the 1840 U.S. census (Maj, Gaebel, & Lopez-Ibor, 2002). The APA expanded classification in 1952. The fourth and current edition, or DSM-IV, (American Psychiatric Association, 1994) continues to be used as a standard for identifying patients in order to increase validity and reliability in epidemiologic and intervention research on mental disorders. It is also a guide for clinicians in diagnosing and treating patients, and the diagnostic codes are used for documentation and reimbursement of treatment. The APA released a slight text revision (DSM-IV, TR) in 2000 to revise some of the coding, but the diagnostic categories have remained the same since 1984. The DSM-IV organizes diagnoses of mental conditions by behavioral or psychological symptoms or patterns and the level of distress or disability associated.

In the DSM-IV, conditions are considered mental disorders only when clinically significant distress or impairment is present. There are three stress-related diagnoses listed, including 1) *Post Traumatic Stress Disorder (PTSD)* and 2) *Acute Stress Disorder*, which both fall under the broader category of Anxiety Disorders, and 3) *Adjustment Disorders*. Each diagnosis has highly specific detail in regards to timing and severity of symptoms. See Tables 2-4 at the end of this section for the explicit DSM-IV criteria.

While there is not a DSM-IV category for subclinical stress, individuals may still have difficulties related to workplace stress, even though symptoms may not meet specific criteria for one of the disorders under the DSM classification system. The line between normal and abnormal "is a gradient rather than a categorical line" (Langlieb & DePaulo, 2008, p. 393).

For example, a worker who frequently experiences uncomfortable interactions with a highly demanding supervisor or an intimidating co-worker may very well develop a state of over-arousal, excessive vigilance, and physical symptoms associated with prolonged stress. Yet, these circumstances may not fit the description of a traumatic event, such as combat, rape, or natural disaster, as described in the category of Post Traumatic Stress Disorder. They may not elicit fear, helplessness, or horror, as required for the diagnosis of Acute Stress Disorder, nor are they an identifiable stressor of limited duration to which one might eventually adjust, as described in criteria for Adjustment Disorder (American Psychiatric Association, 2000). Even so, employees experiencing prolonged work stress may develop behavioral patterns to avoid the difficult interactions, such as increased absences, or they may be at risk for increased illness or accidents (British Occupational Health Research Foundation, 2005). Without a specific diagnosis, however, the individual may not be eligible to receive support and care through some employer benefit plans.

Difficulties with family and home life may also complicate one's capacity to cope with stressors at work. Difficulty managing multiple sources of stress may interfere with one's typical work performance. If work declines and the employee misses deadlines or mishandles tasks, co-worker resentment and supervisor criticism may create a downward spiral further contributing to a sense of hopelessness, helplessness, and withdrawal, or a pattern of irritability, anger, and defensiveness.

In summary, researchers have explored stressors and the stress response, beginning with a primary focus on the physiological aspects. Later researchers focused on the cognitive and psychological aspects of stress. While there is individual variation in response to stress, and some individuals are more resilient than others, the negative correlates of stress remain a concern. The current system of categorizing mental disorders, the DSM-IV, may be helpful for those individuals with exposure to extreme stress but may not help in identifying those with less obvious circumstances. Regardless, the general population continues to report difficulties related to stress, and stress in the workplace continues to affect many individuals (American Psychological Association, 2008).

While employers have cause for concern about stress and related conditions, the contribution of stress to the development of mood disorders may warrant even greater attention. Depression, in particular, may have a considerable long-term impact on the workplace because of the condition's high tendency to become chronic and disabling. The next section describes depression in detail as well as bipolar disorder, which together make up the category of mood disorders.

Table 2

DSM-IV Diagnostic Criteria for Posttraumatic Stress Disorder (American Psychiatric Association, 2000)

---

A. The person has been exposed to a traumatic event in which both of the following were present:
    1. The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others
    2. The persons response involved intense fear, helplessness, or horror.
B. The traumatic event is persistently re-experienced in one (or more) of the following ways:
    1. Recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions.
    2. Recurrent distressing dreams of the event.
    3. Acting or feeling as if the traumatic event were recurring
    4. Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event
    5. Physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event
C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness as indicated by three or more of the following:
    1. Efforts to avoid thoughts, feelings, or conversations associated with the trauma
    2. Efforts to avoid activities, places, or people that arouse recollections of the trauma
    3. Inability to recall an important aspect of the trauma
    4. Markedly diminished interest or participation in significant activities
    5. Feeling of detachment or estrangement from others
    6. Restricted range of affect
    7. Sense of a foreshortened future
D. Persistent symptoms of increased arousal as indicated by two or more of the following:
    1. Difficulty falling or staying asleep
    2. Irritability or outbursts of anger

3. Difficulty concentrating

4. Hypervigilance

5. Exaggerated startle response

E. Duration of disturbance is more than 1 month

F. Disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

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Table 3

DSM-IV Criteria for Acute Stress Disorder

---

A. The person has been exposed to a traumatic event in which both of the following were present:

    1. The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others

    2. The persons response involved intense fear, helplessness, or horror.

B. Either while experiencing or after experiencing the distressing event, the individual has three or more of the following dissociative symptoms:

    1. A subjective sense of numbing, detachment, or absence of emotional responsiveness

    2. A reduction in awareness of his or her surroundings

    3. Derealization

    4. Depersonalization

    5. Dissociative amnesia

C. The traumatic event is persistently reexperienced in at least one of the following ways: recurrent images, thoughts, dreams, illusions, flashback episodes, or a sense of reliving the experience; or distress on exposure to reminders of the traumatic event.

D. Marked avoidance of stimuli that arouse recollections of the trauma

E. Marked symptoms of anxiety or increased arousal

F. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning or impairs the individual's ability to pursue some necessary task, such as obtaining necessary assistance or mobilizing personal resources by telling family members about the traumatic experience.

G. The disturbance lasts for a minimum of 2 days and a maximum of 4 weeks and occurs within 4 weeks of the traumatic event.

H. The disturbance is not due to the direct physiological effects of a substance or a general medical condition, is not better accounted for by Brief Psychotic Disorder, and is not merely an exacerbation of a preexisting Axis I or Axis II disorder.

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Table 4

DSM-IV Criteria for Adjustment Disorders

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A. The development of emotional of behavioral symptoms in response to an identifiable stressor(s) occurring within 3 months of the onset of the stressor(s).

B. These symptoms or behaviors are clinically significant as evidenced by either of the following:

    1. Marked distress that is in excess of what would be expected from exposure to the stressor

    2. Significant impairment in social or occupational functioning

C. The stress-related disturbance does not meet the criteria for another specific Axis I disorder and is not merely an exacerbation of a preexisting Axis I or Axis II disorder.

D. The symptoms do not represent Bereavement.

E. Once the stressor (or its consequences) has terminated, the symptoms do not persist for more than an additional 6 months.

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## Overview of Mood Disorders

Everyone experiences changes in moods, typically ranging from sad to happy to somewhere in between, depending upon one's circumstances. The popular media tends to use the term *depressed* generally to describe a sad or blue mood and the behavioral withdrawal that frequently accompanies sadness. The general public freely uses the term *manic* to describe a high, boisterous mood and overly busy demeanor. Major depression (also called clinical depression), however, is a specific mental disorder that falls under the broader diagnostic label of mood disorders, and mania is a specific symptom describing an aspect of bipolar disorder.

For people with mood disorders, the emotional fluctuations go beyond the typical highs and lows everyone feels, and the fluctuations may have little or no relation to the person's current circumstances. While a person may experience a single episode of clinical depression or the elated mood of mania, the more common pattern for mood disorders is recurring episodes and a chronic course -- emotions and behaviors decline, and daily functions in work, self-care, and social interactions disintegrate.

Few in the lay public are intimately familiar with the highly specific features and terminology associated with DSM-IV diagnostic categories for mood disorders or any other mental illnesses. This section gives an overview of mood disorders, background on labeling of mood disorders, and specific diagnostic information about mood disorders based on the DSM-IV system.

### *Description of the Disorder*

Mood disorder is the umbrella term encompassing conditions where individuals experience an extreme in the continuum of typical moods, from the low, sad, unpleasant mood of unipolar depression to the elevated, elated, energized mood of mania. People with bipolar disorder experience both ends of the continuum.

The U.S. Surgeon General (U.S. Department of Health and Human Services, 1999) and the World Health Organization (2002) have identified depression as a major public health problem that is growing in severity. Mood disorders frequently occur with other mental conditions as well as medical illnesses, which explains the tendency for mood disorders to be disabling (Carnethon et al., 2007; Pincus & Pettit, 2001; Schatzberg, 2004). Mood disorders are often co-morbid with anxiety and personality disorders, substance abuse problems, as well as heart disease, cancer, chronic pain, asthma, and diabetes. Mood disorders are a leading cause of disability worldwide and a common cause of suicide (Murray & Lopez, 1996).

*Early Labels*

A number of early leaders influenced the development of psychiatry and psychology as disciplines separate from medicine. Descartes, 17th century philosopher and mathematician, proposed a model separating the mind from the body in relation to perceiving pain (Chapman, 2004). This duality influenced diagnosis and treatment of mental disorders separately from physical disorders. It may also have contributed to reductionist thinking in health and science, or the tendency to link disease to specific pathophysiology rather than considering social or behavioral influences (Asmundson & Wright, 2004).

German psychiatrist, Kraeplin, is known for beginning the categorization of mental illness according to its main features in the late 1800s, and he may have been the first to use the term “depression” (Pilgrim, 2007). He may also have been the first to describe recurrence and cycling of mood as features of manic-depressive illness (Ghaemi & Goodwin, 2009). Kraeplin’s thoughts about categorizing symptoms dominated psychiatry and encouraged the practice of classification of disorders based on symptoms.

Not all psychiatrists agreed with this reductionist tendency, however. Meyer favored a model of holism and continua, rather than using specific and discrete categories (Pilgrim, 2007). Meyer's emphasis on an individual's biographical history may be the basis of the biopsychosocial model that emphasizes more contextual reasoning about the origin of mental illness and the association of social-emotional pain with physical pain. Szasz became a critic of his own medical specialty, psychiatry, arguing that psychiatrists were the main beneficiaries of categorizing schemas and that socially constructed mental illnesses were metaphors for problems of living rather than diseases (Pilgrim, 2007).

Freud, first a neurologist, then a psychiatrist, further contributed to the study of depression in the early 1900s with his focus on melancholy and mourning (Carhart-Harris, Mayberg, Malizia, & Nutt, 2008). Melancholy was a term that had been used as early as the fifth and fourth centuries B.C. by Hippocrates to mean marked sadness, restlessness, anger, and changes in appetite and sleep (Ghaemi & Goodwin, 2009). Freud's work detailed how memories and subconscious thought affected mood states, with particular focus on ambivalence following loss of a parent. Freud was known for exploring psychological processes, such as repression of anger and hostility, often toward one's parents. He also developed techniques to uncover subconscious ideas or feelings, such as free association, or saying anything that came to mind (Appignanesi, 2008). He continued theorizing, however, about the psychic energy, or energy of the nervous system related to mental processes.

Freud noted that physiological events and psychic events were chained together, one dependent on the other (Carhart-Harris et al., 2008). In this way, his work seems to parallel Canon's and Selye's work related to stress. They were finding the same answers – the mind and body were connected during psychological conflict – while asking different questions. Much of

Freud's work fell out of favor because of its overemphasis on the dominance and influence of sexual urges on thinking and his reliance on lengthy psychoanalysis for specific diagnosis and treatment.

Despite controversies in the field, the growth of labeling and differential diagnosing has been a strong hold of psychiatry and continues to be a powerful part of the medical care system. The growth in specificity of diagnostic labeling of mental disorders may be in part an effort to keep pace with other areas of medicine that utilize more easily observed physical dimensions (Pilgrim, 2007).

*Episodes and Disorders*

While the term depression is now well recognized and commonly used by the general public to mean a sad mood, something nearly everyone has experienced, the full range of symptoms necessary for a diagnosis of *clinical depression, or major depressive disorder,* as described by the gold standard of the APA's DSM-IV are not well known by the lay person. The clinical diagnosis of *bipolar disorder* is even more elusive to most people, and the condition is often misunderstood. The diagnoses of major depressive disorder and bipolar disorder fall under the larger category of *mood disorders* in the DSM-IV. Single occurrences of depression are considered *episodes*. Multiple episodes of a mood disturbance, i.e., occurring more than once, become the building blocks of a *disorder*.

*Single episodes.* The DSM-IV begins by describing *episodes*, or distinct periods and features of mood disturbance. For example, depressed mood and loss of interest or pleasure in life activities (called anhedonia) for at least two weeks are main characteristics of *depressive episodes*. Abnormally elevated, expansive, or irritable mood for at least one week along with other criteria, such as inflated self-esteem or grandiosity, decreased need for sleep, rapid speech,

psychomotor agitation, and involvement in high-risk activities, characterizes *manic episodes*. See Tables 5 and 6 for specific criteria for depressive and manic episodes based on DSM-IV criteria. These depressive or manic episodes are used as building blocks for the various forms of *mood disorders*, rather than as diagnoses themselves.

*Mixed episodes.* Mixed episodes are characterized by rapid changes in moods occurring nearly daily. *Hypomanic episodes* are similar to manic episodes with periods of elevated, expansive, or irritable mood, but symptoms are at lower intensity and without marked impairment in social or occupational functioning. Hypomania may even include brief periods of high efficiency or creativity.

Table 5

*DSM-IV Criteria for Major Depression Episode*

A. Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.
   **Note:** Do not include symptoms that are clearly due to a general medical condition, or mood-incongruent delusions or hallucinations.

   1. depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful). **Note:** In children and adolescents, can be irritable mood.
   2. markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others).
   3. significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. **Note:** In children, consider failure to make expected weight gains.
   4. insomnia or hypersomnia nearly every day.
   5. psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings or restlessness or being slowed down).
   6. fatigue or loss of energy nearly every day.
   7. feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).

8. diminished ability to think or concentrate, or indecisiveness, nearly every day (either subjective account or as observed by others).
9. recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.

B. The symptoms do not meet criteria for a mixed episode.

C. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

D. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism).

E. The symptoms are not better accounted for by bereavement, i.e., after the loss of a loved one; the symptoms persist for longer than 2 months or are characterized by marked functional impairment, morbid preoccupation with worthlessness, suicidal ideation, psychotic symptoms, or psychomotor retardation.

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Table 6

*DSM-IV Criteria for Manic Episode*

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A. A distinct period of abnormally and persistently elevated, expansive, or irritable mood, lasting at least 1 week (or any duration if hospitalization is necessary).

B. During the period of mood disturbance, three (or more) of the following symptoms have persisted (four if the mood is only irritable) and have been present to a significant degree:

   1. inflated self-esteem or grandiosity
   2. decreased need for sleep (e.g., feels rested after only 3 hours of sleep)
   3. more talkative than usual or pressure to keep talking
   4. flight of ideas or subjective experience that thoughts are racing
   5. distractibility (i.e., attention too easily drawn to unimportant or irrelevant external stimuli)
   6. increase in goal-directed activity (either socially, at work or school, or sexually) or psychomotor agitation
   7. excessive involvement in pleasurable activities that have a high potential for painful consequences (e.g., engaging in unrestrained buying sprees, sexual indiscretions, or foolish business investments)

C. The symptoms do not meet criteria for a mixed episode.

D. The mood disturbance is sufficiently severe to cause marked impairment in occupational functioning or in usual social activities or relationships with others, or to

necessitate hospitalization to prevent harm to self or others, or there are psychotic features.

E. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication, or other treatment) or general medical condition (e.g., hyperthyroidism).

**Note:** Manic-like episodes that are clearly caused by somatic antidepressant treatment (e.g., medication, electroconvulsive therapy, light therapy) should not count toward a diagnosis of bipolar I disorder.

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*Episodes Combine to Form Disorders.* Clinicians label depressive episodes based on particular behavioral features that are notable and that may help guide treatment (American Psychiatric Association, 2000). For example, an episode labeled *melancholic* would include loss of pleasure in nearly all activities and/or lack of pleasure even when something good happens, along with such things as early morning waking, worse depression in the morning, marked weight loss, excessive guilt, and/or psychomotor retardation or agitation. In contrast, people with *atypical* depressive episodes show mood brightening with positive events, and neurovegetative functions are reversed from the melancholic – appetite is increased, sleep is excessive, and the person may feel leaden paralysis, as if they are unable to move. Symptoms are worse at night in atypical depression, and there is long standing sensitivity to personal rejection.

Psychotic features may be present in depressive or manic episodes and are labeled as congruent or incongruent with the current mood state. In other words, mood congruent psychotic features during a depressive episode are delusions or hallucinations consistent with depressive themes (such as inadequacy, guilt, death, and punishment). Mood incongruent symptoms during depression may include thought broadcasting and delusions of control. During manic episodes, mood congruent psychotic features are those consistent with mania (inflated self worth, power, or specialness) while mood incongruent would be persecutory delusions and delusions of being controlled. A number of studies have found increased rates of psychotic features in bipolar disorder versus unipolar depression (Goes, et al, 2007). Furthermore, patients presenting with psychotic features initially in unipolar depression are also more likely to experience a manic episode at some point than those without psychotic features.

As mentioned previously, when depressive or manic episodes occur more than once, clinicians will use diagnostic criteria to determine specific diagnoses for disorders. The DSM-IV

includes a full description of subtypes and specifiers for major depressive disorder and bipolar disorder. The main categories are described below.

*Depressive Disorders*

A person experiencing a *major depressive disorder* has one or more instances of a *major depressive episode* but no occurrence of a *manic episode.* This is considered a unipolar disorder, with symptoms occurring on just one side of the affective spectrum. Note that clinicians frequently use the terms unipolar depression and clinical depression interchangeably to describe major depressive disorder, with unipolar referring to one end of the bipolar spectrum.

Some people may experience a single episode, others may have a recurrence even after many years without symptoms, and yet others will have clusters of frequently recurring episodes over the course of a lifetime, some in association with particular seasons. Each episode increases the odds of recurrent episodes, and severity of the first episode predicts persistent episodes, as does chronic medical illness. If full criteria for a Major Depressive Episode have been met consistently for at least two years, the disorder is considered chronic. While the actual experience of depression can vary widely in its features and severity of symptoms, people with major depression are more likely to experience pain and physical illness along with decreased, physical, social, and role functioning. Up to 15% of people with severe depression will die by suicide (APA, 2000).

*Dysthymic disorder,* or dysthymia, shares similar features with major depressive disorder but symptoms are less severe and must be present chronically (a period of 2 years) rather than episodically. In children, irritability may be observed more than depressed mood. Feelings of inadequacy, guilt, and excessive anger are commonly experienced in dysthymia along with periods of social withdrawal and reduced activity or productivity.

*Bipolar Disorders*

There are three primary types of bipolar disorder, Bipolar I, Bipolar II, and Cyclothymia. These are described in detail below.

*Bipolar I Disorder* is characterized by one or more manic episodes or mixed episodes (i.e., frequent fluctuations between low and expansive mood). Many individuals will experience major depressive episodes as well, but this is not required for Bipolar I diagnosis. Bipolar I is highly recurrent (in over 90% of people) and the number of lifetime manic and depressive episodes is higher for Bipolar I than for Major Depressive Disorder (APA, 2000). Those people with more four or more recurring episodes within a given year (called rapid cycling pattern) generally have a poorer prognosis for remission of symptoms.

*Bipolar II Disorder* is characterized by one or more Major Depressive Episodes and at least one Hypomanic episode. Significant impairment in important areas of life function must be experience to reach diagnostic criteria, but the impairment typically occurs during the depressive episodes, not the hypomanic ones. In fact, while the hypomania may not be evident to the individual, it can be troubling to family, friends, or coworkers. As with Bipolar I, recurrence and rapid cycling in Bipolar II are more likely to predict lower levels of function.

*Cyclothymic Disorder* is a chronic (at least 2 year period) mood disturbance characterized by fluctuating hypomanic symptoms and depressive symptoms that are not of sufficient number or severity to reach criteria for either Manic Episodes or Major Depressive Episodes. While people may function adequately during hypomanic periods, marked impairment may occur, particularly due to unpredictable mood changes and social difficulties that are a result. Differential diagnosis between Cyclothymic Disorder and Borderline Personality Disorder may be difficult, and both may be diagnosed if criteria are met for each.

A mood disorder with *postpartum onset* is diagnosed if onset of symptoms occurs within 4 weeks after childbirth. The "baby blues" are common 3-7 days after birth and consist of increased crying, anxiety, and insomnia. More serious symptoms may occur with episodes or disorders having postpartum onset, including psychotic hallucinations and/or delusions. These may increase the risk of the mother harming herself or her baby.

Diagnostic Challenges in Mood Disorders

When clinicians detect a first episode of depression, they may have difficulty distinguishing whether it reflects a symptom of major depressive disorder or bipolar disorder, particularly if the patient downplays the severity of their manic or hypomanic symptoms or never mentions such symptoms to the clinician (Hirschfeld, Lewis, & Vornik, 2003). According to the DSM-IV criteria, however, a bipolar diagnosis is indicated only when a manic or hypomanic episode is present in addition to a depressive episode.

The danger of misdiagnosis is that prescription of an antidepressant medication without a concurrent mood stabilizing medication, such as lithium, may actually precipitate manic symptoms and further complicate the patient's progress (Adams, Miller, & Zylstra, 2008). In addition, psychotic features, such as hallucinations and delusions, may occur with mood disorder, making accurate diagnosis more difficult.

Surveys of adults with bipolar disorder suggest misdiagnosis and inappropriate treatment are common. Moreover, the average patient sees up to four physicians over nearly 10 years before receiving accurate diagnosis and appropriate treatment (Hirschfeld, Bowden, Gitlin, & et al., 2002; Hirschfeld et al., 2003). Hirschfeld, a researcher studying bipolar disorder, recommends that physicians screen all patients with depression using a brief questionnaire about

previous or current symptoms of mania before prescribing antidepressant medications to reduce inappropriate treatment and unintentional triggering of mania.

People with mild or subthreshold symptoms of depression or bipolar disorder may still experience moderate to severe clinical severity and role impairment, and they may be vulnerable to recurring and worsening symptoms (Merikangas et al., 2007). When symptoms of depression or mania do not meet the strict DSM-IV criteria for a depressive or bipolar disorders, the diagnosis may be Bipolar Disorder-Not Otherwise Specified, or BD-NOS. Many people with mild depressive symptoms never seek care or receive treatment. Individuals with subthreshold depression are at increased risk, however, for developing major clinical depression, anxiety disorders, and suicidal behavior (Fergusson, Horwood, Ridder, & Beautrais, 2005).

Depression, like prolonged stress, often is associated with other physical conditions, including heart disease, cancer, stroke, epilepsy, diabetes, and pain conditions; yet, the depression often goes unrecognized and unaddressed in treatment regimens (Carnethon et al., 2007). This is particularly common when depression is mild and the patient and physician are focused on the accompanying physical symptoms. People may be cautious about discussing emotional content with their doctor, and primary care physicians often lack training and experience necessary to treat mental conditions adequately (Langlieb & Kahn, 2005). Without proper treatment, recurring mild depression or continued exposure to excessive stress may contribute to development of a major depressive disorder in vulnerable individuals as will be described in the next sections (Judd et al., 1998).

These challenges in accurately diagnosing conditions and initiating the appropriate treatment underscore the importance of individuals receiving high quality care. People who work for employers that provide health benefits with access to behavioral health care may be more

likely to receive treatment, if they do seek care, from specialists with the experience to make accurate clinical judgments.

## Etiology of Mood Disorders

The etiology of mood disorders is highly complex with interacting contributions from neurobiological, genetic, psychosocial, and environmental factors (Beck, 2008; Maletic, 2005). In fact, some of the subtypes of mood disorders may actually reflect distinct neurobiological differences, explaining why certain treatments are effective for some people but not for others (Mayberg, 2003). The following section reviews several of the major areas of study examining causes of depression and bipolar disorder.

### *Biochemical Models*

Researchers in the 1950's serendipitously uncovered the role of biological factors in mood disorders when they discovered that medications used for treating unrelated medical conditions also had an impact on levels of depression and symptoms of mania. Researchers, noting associated changes in the noradrenergic and serotonergic systems of the brain, theorized that depression resulted from decreased availability of the neurotransmitters norepinephrine and/or serotonin while mania resulted from excess activity of the noradrenergic system (Kandel, Schwartz, & Jessell, 2000). In other words, insufficient neural transmission occurred in depression and excessive neural signal conduction occurred in mania due to this neurotransmitter imbalance. Subsequently, this perspective, known commonly as a *chemical imbalance*, has influenced the development of numerous medications that inhibit the reuptake of norepinephrine and/or serotonin in presynaptic neurons and prolong the action of the neurotransmitters in the synaptic cleft (Kandel et al., 2000). These medications are highly effective for many people with

depressive and bipolar disorders (Adams et al., 2008; Berman, Sporn, Charney, & Mathew, 2009; Gonzalez, Thompson et al., 2007).

The precise neural mechanisms, however, that occur with mood disorders or in response to antidepressant and mood-stabilizing medications are not well understood. Individuals do not respond to antidepressants in the same way. In fact, only 30% of individuals with major depression experience full symptom relief through antidepressants (Rush et al., 2006). This level of effectiveness suggests that the chemical imbalance perspective alone is insufficient and that researchers should consider other models for explaining the etiology of mood disorders.

Some researchers suggest that the neurobiology of single depressive and manic episodes may differ from the neurobiology of recurring and chronic disorders, and that stress may kindle the recurrence of depressive symptoms that are increasingly more severe (Ghaemi & Goodwin, 2009; Maletic et al., 2007). In other words, stress may sensitize certain brain circuits so that with each episode of a certain magnitude of stress, the individual progressively becomes more vulnerable or hypersensitized to electrical and chemical transmission within those circuits. A later section will describe the effect of stress in more detail.

Strictly relying on biochemical and neurologic models, however, may be shortsighted. Psychiatrist and psychoanalyst Frattaroli (2001) suggests there may be evolutionary, developmental, social, nutritional, and even spiritual contributions to mood sates that are being ignored. He further postulates that perhaps humans require periods of inner conflict and relative instability in order to move toward greater self-actualization, emotional growth, and social development. Psychologist and professor Ilardi also encourages a broader look at depression suggesting an increase in depression may be due to increasingly urbanized lifestyles. Ilardi advocates changes in diet (specifically omega-3 fatty acids), sleep, exposure to sunshine, social

connectedness, and engagement in meaningful tasks (in order to avoid dwelling on negative thoughts) as an alternative to antidepressant medications (llardi, 2009). Both Frattaroli and Ilardi seem to suggest there is value in patients being actively involved in their own recovery from depression rather than being passive recipients of medications.

*Cognitive Model*

The cognitive model of depression typically is associated with work by psychologist Aaron Beck. Beck described depression as being related to distorted beliefs and faulty thinking patterns, which, in turn, affect emotions and behaviors (Beck, 1999). Beck theorized that human beings develop schemas, or core beliefs, through early life experiences. These deep cognitive structures shade people's views of themselves, others, the world, and their future.

Beck suggested that information processing with a systematic cognitive bias leads to the person selectively noticing and attending to negative aspects of life and progressively blocking positive experiences and memories (Beck, 2008). This negative bias is similar to the negative appraisal or attribution to challenging and stressful situations described earlier by Lazarus (Lazarus, 1966). Beck noticed that as life events trigger distorted thinking, people begin to integrate ways of responding in characteristic modes of depressive behavior, such as social withdrawal or reduced activity levels. The work of Beck forms the basis of cognitive behavioral psychotherapy (CBT).

Neuroscience confirms some aspects of the cognitive theory of depression in that brain studies show increased neural activity in certain parts of the prefrontal cortex in people with depression compared to people with no depression. This part of the brain is associated with decision making, sustained attention, and working memory, skills which are often diminished during episodes of depression (Maletic et al., 2007). Other studies have found changes in brain

regions to vary across individuals, suggesting that depression may be quite heterogeneous in etiology (Seminowicz et al., 2004). This would help explain varying levels of improvement among individuals receiving treatment and would suggest that clinicians should individually tailor treatment for optimal outcome.

Accumulated research finds CBT to be an effective intervention for many people with depression, which further supports the theory of a cognitive role in depression. Both cognitive and vegetative features improve with CBT (Bhar et al., 2008). The cognitive dimension includes such indicators as difficulty with memory, negative automatic thoughts, and indecisiveness. Changes in vegetative functions include improved appetite and sleep. CBT has also been helpful in improving relationship functioning and life satisfaction for people with bipolar disorder (Miklowitz et al., 2007). CBT-based interventions have also been effective in reducing stress-related work absences (Grime, 2004).

*Developmental Model*

Developmental research has looked at the role of early life experiences (such as loss of a parent, abuse, or neglect in childhood) in the development of emotional reactions, attachment, and subsequent development of depression (Beck, 2008; Rutter, 1993, 2006). While early childhood adversity increases the risk of stress-related and depressive disorders, as mentioned earlier, there are individual differences. Researchers have looked at factors that contribute to the development of depression as well as those that may build resilience to stress and help vulnerable children develop coping strategies avoid psychosocial disorders (Rutter, 2006).

One area of research is the impact that mothers with depression have on their infants. In studies of interactions between mothers with depression and their infants, depressed mothers were more likely to be angry, sad, or intrusive in face-to-face interaction or to be poorly timed,

lacking synchrony in the communication loop (Tronick, 1989). Infants in turn were less able to calm themselves and showed more crying or withdrawing in response to such stressors. Babies of mothers with depression have higher levels of the stress hormone cortisol, lower levels of the neurotransmitters dopamine and serotonin, asymmetries in frontal lobe functioning, more signs of distress, and more sleeping difficulties (Field, Diego, & Hernandez-Reif, 2006). Thus, difficulty in adapting to stress, modulating negative affective states, and regulating emotions may make these infants vulnerable to depressive episodes in the future. Such differences in emotion processing appear to have an impact upon cognitive development in infants and young children, and may result in cognitive vulnerability to stress from environmental challenges and development of feelings of helplessness and despair (Seligman, 1991). Such patterns of development may limit individuals from developing emotion recognition and emotion self-regulation skills that would of value to them in work roles later in life.

Indeed, adults with major depressive disorder exhibit differences in processing emotional information that is important to social interaction. For example, Leppanen (2006) found decreased accuracy in recognizing happy or sad facial expressions in adults with depression and a tendency to bias interpretation of negative expressions and to react to and recall negative facial expressions or words more readily than positive facial expressions or words. These differences in interpreting emotional expressions and a tendency toward negative bias may create difficulties for people with depression in working successfully with others.

The National Scientific Council on the Developing Child points out that a certain amount of stress and minor adversity in childhood is a necessary prerequisite to a sense of mastery and to development of emotional resilience in later life. These authorities describe the manageable challenges of dealing with frustration along with supportive relationships that facilitate adaptive

responses to stressors as *positive stress.* Even what they term *tolerable stress* (that which is time limited, such as death of a loved one or experiencing a natural disaster) may be buffered by supportive relationships and result in adaptive coping with little disruption to long-term neurodevelopmental function. *Toxic stress,* however (or that which is strong, frequent, or results in prolonged activation of the body's stress response) places the child at risk of disrupted brain architecture and of chronic health problems well into the future. The Council suggests that toxic stress related to recurrent neglect or abuse, severe maternal depression, or family violence lowers the individual's threshold for responsiveness to stress and contributes to conditions with both behavioral and physical components, such as chronic pulmonary disease, coronary artery disease, depression, and diabetes (Shonkoff, Boyce, & McEwen, 2009).

*Limbic-Cortical Circuit and Relation to Stress*

Researchers studying the impact of psychosocial stress theorize that depression occurs as the result of prolonged or recurring stress responses that disrupt the hypothalamic-pituitary-adrenal axis (HPA). The regulatory network of the hypothalamic-pituitary-adrenal axis (HPA) operates in response to stress and releases cortisol into the bloodstream, acting upon bodily organs and tissues in preparation for protective responses (Adinoff, Iranmanesh, Veldhuis, & Fisher, 1998). People with depression often exhibit a disturbance in this neuroendocrine function that is characterized by excessive secretion of cortisol from the adrenal cortex of the kidney (Kandel, Schwartz, & Jessel, 2000). This hypercortisolism appears to affect the hippocampus, which fails to relay feedback signals to the HPA axis to constrain the stress response. Researchers have found atrophy of neurons in the hippocampus and the prefrontal cortex in response to chronic stress and in people with depression, providing a possible explanation for certain forms of memory and cognitive deficits (Duman, 2009).

Repeated exposure to chronic stress is theorized to increase reactivity of brain circuitry and lower the threshold for a depressive episode (Pariante & Miller, 2001; Shumake & Gonzalez-Lima, 2003). Research suggests that genetic vulnerability and exposure to early life stressors may contribute to depression through neural changes in certain brain circuits, most notably the limbic-cortical circuits. These include the brainstem, amygdala, hippocampus, hypothalamus, and cingulate gyrus, and connections through the dorsolateral prefrontal, lateral orbitofrontal, and anterior cingulate circuits to the cortex  (Kandel et al, 2000). Typically, the limbic-cortical circuit modulation of arousal and alerting behaviors in organisms allows for storage and retrieval of memories to enable approach/avoidance behaviors based on past experiences during challenging situations as explained earlier. These structures interact in survival activities, such as eating, drinking, and reproduction, as well as during social interaction, emotion regulation, and activities related to pleasure and ego satisfaction.

With repeated stress in vulnerable individuals, connectivity and feedback between portions of these circuits appear to be compromised, contributing to the development of depression. Hyperactivity of some portions of the limbic cortical circuit in individuals with major depression tends to be associated with heightened pain sensitivity, worry, and ruminative thinking often seen in people with major depression. Hypoactivity of other portions is related to reduced activity levels, increased apathy, and working memory problems (Maletic et al., 2007). In terms of the workplace, the behavioral changes corresponding to neural circuitry activity described above may affect an individual’s ability to begin work tasks and sustain the attention and motivation needed for completion. It may be difficult to initiate communication necessary to interact with others on work teams or to interpret accurately other team members’ feedback about one’s work.

The amygdala and the nucleus accumbens, involved in processing memories with emotional associations, may in turn mediate the anhedonia (or lack of joy in typically pleasurable activities), anxiety, and reduced motivation commonly seen in persons with depression (Nestler et al., 2002). These circuits contribute to cognitive functioning, memory, concentration, sleep, appetite, mood, and motivation. Depressive neurovegetative symptoms, such as sleeping problems, reduced energy, changes in appetite, and reduced interest in sex may also implicate involvement of the hypothalamus, the body's regulator of internal homeostasis. Difficulties with sleep and energy may affect many work functions, particularly for people in safety sensitive positions, such as train engineers or pilots.

Acute and chronic stress also appear to affect the neurochemical and cellular transcription (cellular communication) in these reward and motivation circuits of the brain known as the mesocorticolimbic dopamine system (Soderpalm & Soderpalm, 2006). Frequent stress may result in heightened reactivity in the circuitry of this system and subsequent cravings for relief of the associated arousal, for example, through smoking, drinking, drugs, gambling, and possibly excessive working. Workers who use these types of coping strategies can be very challenging to employers as the physical and behavioral effects frequently spill over to the workplace and often contribute to reduced work performance as well as absence and disability. Ironically, heightened sensitization of the reward circuit also tends to decrease the individual's subjective perceptions of pleasure from these relief strategies and increases aversion to social contact (Haglund et al., 2009; Soderpalm & Soderpalm, 2006). The depressive symptoms of hopelessness and anhedonia are likely associated with disrupted transmission of the reward circuits. A downward spiral of withdrawal and repeated addictive behaviors may compromise the

individual's work and social life, and changing these longstanding behaviors may be very difficult.

In contrast, resilient individuals may retain their ability to find meaning and reward in life's activities, and to use social support and other coping strategies despite hardships or trauma, by strengthening the reward circuits (Charney, 2004). The amygdala, though most studied in relation to fear and stimulation of the stress response, is equally important for emotional memory of rewarding conditions, to development of motivation, and to experiencing pleasure (Nestler et al., 2002). Having a robust reward system and being able to respond to positive situations with optimism, hopefulness, and a positive self-concept may be protective for individuals who subsequently experience stress, trauma, or personal hardship (Haglund et al., 2009). Challenging and manageable experiences that build reward system strength may act like an immunization, helping resilient individuals to be less sensitive to the adverse effects of stress (Amat, Paul, Zarza, Watkins, & Maier, 2006; Charney, 2006). Neuroscientist, Joseph LeDoux suggests that resilience is a learned process, largely based on one's ability to tune out fear responses or reminders of past painful experiences and, instead, exercise control over a situation or take actions that might be useful (Sherwood, 2009). Thus, workplace managers who help structure opportunities, provide settings for trying new tasks, and gradually shape worker behaviors and skills without fears of being reprimanded or fired may be more successful in building resilient workers than those with zero tolerance for mistakes or failures.

The etiology of bipolar disorder is less clear than that of unipolar depression. Genetic transmission is highly likely, as first-degree relatives have a five- to 10-fold greater risk of bipolar disorder than the general population; and the disorder is found concurrently in 80-90% of monozygotic (identical) twins versus 15% of dizygotic (fraternal) twins (Craddock & Jones,

2001). While the particular gene site or sites have not been identified, multiple genes are likely to be involved. In both major depressive and bipolar disorders, it is likely that genetic influences on neurotrophic factors (or growth and nourishment of brain cells), which allow adaption to stress, are involved (Rosa et al., 2006).

Much of the research on mood disorders has been completed with animals. Studies of rat models of depression and its treatment have also supported the theory that early stress affects development of depression in bipolar disorder. For example, Husum and Mathe (2002) found changes in two neurochemicals related to the stress response, neuropeptide Y (NPY) and corticotropin releasing hormone (CRH), in brains of adult rats that had experienced the stress of early maternal deprivation. Structures that were affected include the hippocampus, striatum, and hypothalamus. These are the same structures shown to play primary roles in depression. Treatment with lithium counteracted the changes in NPY and CRH, providing a possible mechanism for lithium's potent but as-yet-unknown therapeutic mechanism in the treatment of bipolar disorder.

Major life events causing emotional stress may serve to precipitate symptoms of bipolar disorder just as in depressive disorders, and similar differences in HPA axis functioning and neurotransmission are seen. In bipolar disorder, insufficient transport of sodium and potassium ions into neurons causes disinhibition of neural transmission. While prefrontal cortex activity is lower during the depressive phase of a bipolar disorder, an increase in this region is observed during mania (Kandel et al, 2000). This would explain why people experiencing the mania of bipolar disorder often have difficulties with sustained attention, working memory, and task planning (Clark, Iversen, & Goodwin, 2001). These are important skills for most workers in today's economy.

*Section Summary*

Numerous theorists have explored the etiological contributions to mood disorders. Current evidence suggests that multiple factors, including neurobiological, cognitive, and social contributions, play a role in the development of these conditions. As Beck (2008) pointed out, integrating cognitive theories and research with those of biological and developmental researchers would be highly valuable, yet the complexity in accomplishing this is challenging. Each discipline uses its own theoretical concepts, terminology, design strategies, and procedures in their research traditions. Beck suggests collaboration across disciplines would be a worthwhile pursuit, although not an easy task. Indeed, collaborative approaches may encourage synthesis of theories and enhance the development of practical applications in therapeutic approaches.

## Prevalence of Stress-related and Mood Disorders

Assessment of prevalence of stress-related and mood disorders in workers is an emerging area of research. In its annual nationwide survey measuring attitudes and perceptions of stress in the general public, the American Psychological Association found approximately 30% of Americans rate their stress level as extreme (American Psychological Association, 2008). Compared to the previous year, more people reported experiencing physical and emotional symptoms and strain on relationships and work productivity. Nearly half of participants responded they are not doing enough or are not sure they do enough to manage their stress. The National Institute for Occupational Safety and Health summarized findings of three self-report surveys from 1992 to 2002, which suggested that workers in various settings experience similar ranges of stress. While wording of the assessment tools varied, 26% to 40% of respondents said work was “often/frequently” or “very/extremely” stressful, or workers were “often/very often” burned out or stressed by their jobs (National Institute for Occupational Safety and Health, n.d.).

In terms of depression in the United States, approximately 7% of adult men and 12% of women experience a major depressive disorder each year and nearly one in five (20%) Americans do so in their lifetime (Blazer, Kessler, McGonagle, & Swartz, 1994; Kessler et al., 2003; Regier et al., 1993). Within the workforce, the prevalence of major depressive disorders is estimated at 9% (Stewart et al., 2003). The prevalence of minor depression is more difficult to determine since most people never seek treatment for it, but estimates suggest it is three times more common than major depression (Bilsker, Gilbert, Myette, & Stewart-Patterson, 2004).

Depression occurs about twice as often in women as in men and tends to be more common among those younger than 45 years of age, of lower socioeconomic status (SES), and separated or divorced (Pincus & Pettit, 2001). These gender differences, however, may be related to differences in depressive symptomatology and corresponding diagnostic categories. Women with depression tend to express more dysphoric mood, and clinicians are likely to provide a depression diagnosis, whereas men with depression often exhibit more antisocial behavior, anger, and alcohol abuse than women do; thus, men may be more likely to receive a primary diagnosis related to those behaviors than to their depression (Nazroo, 2001).

Bipolar disorder occurs less frequently than stress-related disorders or unipolar depression. Lifetime prevalence of bipolar disorder is approximately 1%, but subthreshold rates are estimated to be over twice as high (2.5%) and to cause significant role impairment (Merikangas et al., 2007). Rates of diagnosing bipolar disorder in children and adolescents appear to be rising sharply (Moreno et al., 2007), but it is undetermined whether this is due to an actual increase in the disorder, increased recognition that the problem could exist in children, or a change in diagnosing patterns (e.g., a differential diagnosis of attention deficit disorder, which

has overlapping symptoms). Prevalence rates may also be affected by greater awareness in general about bipolar disorder on the part of care providers and parents.

Bipolar disorder prevalence is evenly distributed in men and women (Regier et al., 1993). Both unipolar depression and bipolar disorder, like many medical conditions, are associated with lower SES (Murray & Lopez, 1997). A causal role for socioeconomic factors in the etiology of mood disorders has not been determined. It is possible that people with mood disorders have reduced work opportunities and thereby lower socioeconomic levels. The role of stress as a contributor to the development of mood disorders in vulnerable individuals is also important to consider since people with low SES face numerous life stressors. Poor young women of all ethnic groups and single mothers appear to be at greatest risk of depression among all groups (Brown & Moran, 1997; Miranda & Green, 1999).

## Course

While the average age for onset of major depressive disorder is the mid-20's, symptoms of depression may be experienced at any time during the lifespan. Infants as young as 3 months of age have been observed to be sensitive and reactive to expressions of flat or negative affect common to mothers with depression. These infants, in turn, exhibit symptoms of social withdrawal and difficulty with emotion regulation (Cohn & Tronick, 1989). In fact, difficulty identifying facial expression of emotions accurately may be a marker for increased risk of developing a bipolar disorder (Brotman et al., 2008). Children of parents with mood disorders show higher rates of such conditions than do children of parents without mood disorders, and these children have higher rates of social impairment (Weissman et al., 2006).These early difficulties in emotion regulation and emotion recognition may continue into adulthood and affect the person in workplace settings requiring interpersonal interaction.

As described in previous sections, major depression tends to recur. The more episodes one has experienced, the more likely the condition will remain chronic without subsiding. With each occurrence, there is greater risk of psychosocial limitations, work impairment, and worsening of other medical conditions, thus the more disabling each episode is likely to become (Hirschfeld et al., 2003).

While depression is not a normal consequence of aging, it commonly is co-morbid with other medical illnesses associated with aging, such as heart disease, diabetes, stroke, cancer, and Parkinson's disease and is often overlooked and untreated (National Institutes of Mental Health, 2003). It also frequently occurs subsequent to loss of a spouse or other social support and frequently follows loss of vision, mobility, or functional abilities. In older people with depression, symptoms may include irritability, pacing, or restlessness.

In adults with bipolar disorder, about 65% experience onset of symptoms prior to age 19 (Perlis et al., 2004). Episodes may recur after years without any symptoms. More frequent cycling of episodes is associated with declining functional abilities and with greater proportion of time spent in depressive episodes rather than manic episodes (Judd et al., 2002). Recurrence of bipolar disorder is twice that of depression, and full recovery is rare (Angst, Gamma, Sellaro, Lavori, & Zhang, 2003). Up to 40% of those with mood disorders also have a substance use disorder, and often use alcohol as a means of self-medication (Merikangas et al., 1998). Left untreated, substance abuse typically worsens the course of mood disorders, affects social relationships, and further reduces functional abilities.

People with depressive or bipolar disorders are at greater risk of suicide than the general population, and the risk is higher in people who abuse alcohol. Other risk factors associated with suicide include *biopsychosocial risk factors,* such as anxiety and personality disorders;

hopelessness, substance use, family history, and impulsivity; *Environmental risk factors,* including job loss, financial difficulties, access to lethal weapons, and cultural norms; *Sociocultural risk factors,* such as isolation, low social support, barriers to health care, and media attention to previous suicides. *Protective factors* that reduce the likelihood of suicide include access to effective care, strong family and social connections, and cultural/religious beliefs discouraging suicide (Center for Substance Abuse Treatment, 2008).

Suicide rates vary by age, gender, and ethnic groups, but in general, suicide occurs most frequently in males and tends to peak in adolescence and old age. In general, between 2% and 5% of the U.S. population attempt suicide in their lifetime (Moscicki, 1999). Suicide is carried out by about 15% of persons formerly hospitalized for depression (Angst, Angst, & Stassen, 1999). People with mixed episodes of bipolar disorder are at particular risk of suicide due to the high energy and elation of mania combined with low mood of depression.

*Section Summary.* A myriad of factors, including biological, psychological, social, and experiential, appear to play a role in the development of both stress-related and mood disorders. Stress-related and mood disorders themselves appear to be interrelated, and stress often contributes to the initial and/or repeated occurrence of depression and bipolar disorder. Because the etiology of mood disorders appears to be multifactorial, intervention approaches that address multiple factors might be indicated (Myette, 2008). Interventions should also address the increased risk of suicide in individuals with stress-related and mood disorders.

## Impact on Occupational and Role Performance

Stress-related and mood disorders may have wide-ranging effects on workers. Stress and mood disorders affect the workplace through lower work output and higher disability rates, medical costs, and employee absence. Short-term disability claims related to mental illness are

growing by 10% annually (Marlowe, 2002). These claims can account for 30% or more of the corporate disability experience ratings for the typical employer.

Excessive stress may result in difficulty managing emotions, focusing attention, making decisions, and thinking clearly or objectively (McCraty & Tomasino, 2009). Fatigue from stress and disturbed sleep may cause irritability and contribute to accidents (Taylor & Dorn, 2006). In management consulting firm Watson Wyatt's 2007/2008 global workplace survey, stress was the employees' most frequently cited reason for leaving one's job. In addition, while 48% of employers reported that stress created by long work hours and doing more work with fewer employees affected their business performance greatly, only 5% reported taking considerable action to address these issues (Watson Wyatt, 2007).

Mood disorders can range from mild to severe, but, in general, their impact can be pervasive and disabling if symptoms are recurrent and untreated. Severe major depression often seriously affects major areas of life function, but recurring or chronic mild depression may also be highly disruptive. Individuals with depression may show poor self-esteem and low motivation, while those in manic episodes may have exaggerated self-esteem and difficulty completing and finishing tasks (Christiansen & Baum, 1997). Areas frequently affected include cognitive (solving problems, making decisions, remembering, concentrating), behavioral (motivation, task completion, problem solving), social (withdrawal, eye contact, listening skills, interpersonal conflicts), and physiological (sleep difficulties, restlessness, fatigue). Daily routines for sleep, meals, self-care and social relationships are often disrupted, particularly in those experiencing manic episodes (Bilsker et al., 2004). Such difficulties can greatly influence performance in school, work, home, and community (Kessler et al., 2007).

Both depressive disorders and bipolar disorders may influence effectiveness in learning and work roles when cognitive and social skills are compromised. At work, supervisors and co-workers are often the first to notice symptoms occurring or recurring when work skills begin to deteriorate. People with mood disorders are at increased risk of accidents and job loss. (Bilsker et al., 2004). People with depression also frequently become preoccupied with physical symptoms, which can contribute further to work absences for doctor's appointments. Excessive absences and work impairment may cause co-worker resentment, or, conversely, the co-worker may attempt to protect the compromised worker from being reprimanded by supervisors (Langlieb & Kahn, 2005). Family members may also attempt to shield the worker or make excuses for their behaviors, further preventing detection of the condition and potentially delaying valuable treatment.

People with bipolar disorder often have significant difficulty with work related performance (Calabrese et al., 2003). Feelings of high energy without the need for sleep are common during mania, yet over time lack of sleep contributes to cognitive declines and even psychotic symptoms. Hallucinations and paranoia during manic episodes are often confused with schizophrenia and make treatment and recovery difficult. If people with bipolar disorder are untreated or treatment is inappropriate, about 88% remain unable to work, 68% have conflicts with family and friends, and 55% have financial difficulties (Hirschfeld et al., 2003). In one large workplace study, workers with bipolar disorder had higher work loss than those with major depressive disorder due more to severe and persistent episodes of depression than to manic or hypomanic symptoms (Kessler et al., 2006). The authors suggested that employers participate in coordinated workplace trials for screening and treating both bipolar disorder and major depressive disorder.

Stigma, or a mark or a sense of disgrace or reproach, is common in people with mood disorders. The stigma that exists for depression is often due to the hidden nature of the disorder, since there are no physical symptoms that might explain the individual's behaviors or difficulties, and misunderstandings frequently surround depression (Bilsker et al., 2004). Family and friends may encourage the individual simply to try harder to get over their problems, further compounding the individual's sense of defeat and despair.

Research also suggests stigma affects those caring for individuals with mood disorders, even when symptoms are in remission. This may increase social withdrawal, alter role expectations, and limit occupational choices of all family members (Gonzalez, Perlick et al., 2007).

Co-workers may avoid other workers with depression contributing to further loss of social networks and low overall morale in the workplace (Couser, 2008). Furthermore, people tend to blame individuals with mental illness for their problems more than they blame people with physically identifiable conditions. Depression may change the dynamics of the workplace through emotional contagion, or unconsciously absorbing the emotions of the person with depression. Over time, the person's co-workers may also experience increased sadness and negative emotions, or they may subconsciously avoid interactions with the person to avoid taking on these feelings (Emens, 2006).

In addition to human costs, there are substantial financial costs to the workplace related to mood disorders. An analysis using human-capital methodology (i.e., prevalence data, published medical utilization and wage information, as well as assumptions based on previous data regarding treatment rates) estimated the total economic burden of depression in the U.S. in 2000 at $83.1 billion. Of this amount, $26.1 billion (or 31%) was attributed to direct treatment

cost, $5.4 billion (7%) were costs related to suicide (i.e., lifetime earnings lost), and $51.1 billion (62%) were workplace costs, or wages lost due to absenteeism or reduced productivity (Greenberg et al., 2003). The reduced productivity while the employee is still at work, a concept termed "presenteeism," is considered to be among the most challenging of issues to employers since it is difficult to identify. In safety-sensitive jobs or positions depending heavily on cognitive skills, workers who have difficulty with memory, concentration, or decision-making due to depression are of particular concern (Bilsker et al., 2004).

## Issues Related to Treatment

A detailed description of various interventions that clinicians employ for stress-related disorders and mood disorders is beyond the scope of this paper. In general, however, there are a number of strategies that have been effective in reducing symptoms, including preventive strategies (such as early detection screening and improving coping skills), pharmacological treatment, and psychotherapeutic interventions (Myette, 2008). Less than half of people with depression ever seek care, however, and only 15 to 30% of these individuals receive evidence-based quality treatment (Kessler et al., 2003). Thus, increased efforts to recruit individuals with mood disorders into treatment and efforts to improve quality of treatment are called for.

In addition, health care consumers are increasingly seeking out complementary and alternative modalities to address physical and emotional conditions. Preliminary studies of several forms of physical activity, such as yoga and tai chi, have had promising results in reducing depressive symptoms (Chou, 2008; Chou et al., 2004; Leddy, 2006; National Center for Complementary and Alternative Medicine National Institutes of Health, 2007). Relaxation and mindfulness meditation also have been helpful (Benson & Proctor, 1985; Davidson et al., 2003). These practices warrant additional research.

## Conclusion

The science of what we term *stress* began in the discipline and tradition of physiology and biology, through studying the body's generalized response to the perception of threat. Later, psychologists added to the physiological and biological focus with an emphasis on how individuals appraise (think about and interpret) the nature of threats. Initial interventions for stress were predominantly behavioral in nature and centered upon clinicians teaching individuals how to reduce their physiological arousal to avoid organ damage and improve general health.

By contrast, the study of what we now know as *depression* began in the science and traditions of psychiatry and psychology. Clinicians and researchers focused on how a person's thoughts and memories affected mood and behavior. Intervention for depression began with one-on-one interactions with clinicians leading patients through psychoanalysis to uncover thoughts, memories, and emotions. The accidental discovery of medications that lifted depressed moods changed psychiatry's focus from psychoanalysis to biology and physiology. A research emphasis on pharmaceutical interventions for mood disorders that has spanned several decades is now being enhanced by a more integrative approach that includes psychotherapy and complementary health approaches, since medications alone have not been successful for all people with depression. Regardless, medications remain the primary approach in medical practice despite emerging evidence for the effectiveness of other interventions (Frank, Goldman, & McGuire, 2009).

Employers have a stake in better understanding the relationship among multiple factors that contribute to mood disorders, particularly psychosocial stress. Stress-related and mood disorders may be distinct in their presentation of symptoms and they do not always occur together. For many people, however, the interrelation of stress and mood disorders is predictive

of role difficulty at work and predictive of physical complaints (Langlieb & DePaulo, 2008), yet our systems of care are not adequately addressing the medical and emotional needs together.

Psychiatry's adoption of the medical model and creation of diagnostic categories based on marked pathology may explain the behavioral health industry's tendency emphasis on relieving serious mental illness rather than on protecting and fostering wellbeing. Their focus is on the illness end of the health continuum rather than on wellness. Yet identifying people at earlier stages, addressing excessive stress before depression or bipolar disorder in vulnerable has an opportunity to develop in vulnerable individuals may be more effective in reducing the growing prevalence of these conditions.

Perhaps other disciplines outside of medicine will take the lead and find methods for earlier identification and preventive approaches to mental health. Since this is an emerging area of practice with little theory development or empirical research, interdisciplinary efforts would be valuable.

As various arms of science converge to study the multiple contributions of biology and environmental experiences to the development of stress and mood disorders, perhaps researchers will better understand the etiology of related disabling conditions. Health authorities are calling for approaches that address the mental, emotional, and physical aspects of health together and that improve health system and organizational delivery of interventions (Couser, 2008; Myette, 2008). Research into strategies for enhancing resilience and resistance has been identified as a "moral imperative" (Yehuda, Flory, Southwick, & Charney, 2006, p. 391). Employers stand to benefit in terms of improved work performance and decreased costs for medical care and disability management by advocating for improved identification and treatment of stress-related

and mood disorders as well as the other conditions with which they frequently occur (Kessler, 2008).

Integrating social and organizational science frameworks with medical and behavioral science, employers may find meaningful alternatives for approaching mental health in the workplace by looking in different places and asking different questions. For example, greater understanding of the perception of threat or a need to defend oneself against stressors in the workplace may help researchers learn more about the development of the stress response and the sense of learned helplessness.

Employers have many questions to ask themselves. How can they challenge employees by providing optimal amounts of stress to promote development of resilience and a sense of mastery while avoiding prolonged and toxic stress? How can they harness the positive energy and creativity of resilient individuals and build similar strengths in other employees? How do dispersed workforces, telecommuters, and virtual work (the use of computers to accomplish tasks and communicate with others rather than convening with a group people face-to-face) affect employee stress levels? How does constant change in the workplace affect perceived work roles and a sense of social connection? How do complex technology and managers' constant access to workers affect arousal levels and abilities to relax and return to homeostasis? What tools might employers use to improve early detection of stress-related and mood disorders? How may earlier identification of common workplace pain disorders and increased attention to psychosocial factors affect long-term mental and physical health?

Consideration of the broader context in which stress and mood disorders occur may help researchers and employers understand the social and organizational environments in the workplace that have an impact upon mental well-being. Focusing on mental illness from a purely

medical model and delivering interventions to individuals is insufficient. The interplay of stress and depression may be compared to the separate parts of the proverbial elephant that is in the grasp of six blind men (Briggs, 2008). Each man feels the individual part, the tusk, trunk, or tail, and thinks he understands the nature of the whole animal. In reality, a valid portrait of the elephant may be revealed only if all of the men combine their knowledge. The future of workplace mental health may rely on the coordinated efforts of researchers and interventionists from medical, behavioral, organizational, and social traditions joining together to share knowledge and develop effective practices not only to better identify and treat stress and depression but to create safe, productive, harmonious workplaces that preserve the health of workers.

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## Appendix G: Comprehensive Literature Review III

Stress in the Workplace:

Individual- and Organization-Level Interventions

Nancy Spangler

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## Introduction

Stress in the workplace has been a common topic as long as humankind has roamed the plains in search for food, competing against other humans and predatory animals for the next meal. While daily survival pursuits may not be so dramatic in today's workplace, the comparison is not entirely exaggerated. Global economic downturns have caused many businesses to reduce employment levels in order to compete in the market place. The sense of pressure has increased, both for people whose jobs have been eliminated, as well as those who remain and now carry extra workloads. Economic concerns are weighing heavily on some Americans, and calls to suicide crisis centers have increased sharply. The Substance Abuse and Mental Health Services Administration recently called the situation critical and announced plans to increase funding for crisis centers that were recently strapped by cuts in local and state budgets (Substance Abuse and Mental Health Services Administration, 2009).

Workers frequently face workplace situations that create stress, defined as the physiological response of the body to demands or threats (Selye, 1956). For example, supervisors' expectations may be unclear, or their expectations for tasks may exceed the time allotted for completion. Personal stressors, such as caring for sick children or aging parents, often overlap with work (Boehme, 2004). The American Psychological Association (2008) found that up to 30% of Americans rated their stress levels as extreme in 2007. Work and job stability were among the top concerns. In addition, rapid organizational change, globally dispersed workforces with vast cultural differences, and personal and international financial crises have become overwhelming for many (Marlowe, 2002; Raghuram & Wiesenfeld, 2004).

Governmental and non-governmental health agencies are alerting employers to the need for addressing stress because prolonged or excessive stress may contribute to a number of highly

disabling conditions in their workers, such as depression, heart disease, and pain conditions (Arnow et al., 2009). In addition, stress and depression appear to be highly related; excessive stress often leads to a first episode of depression or recurring episodes (Maletic et al., 2007). Stress and depression both affect employers in terms of increased health care costs, absenteeism, and disability as well as reduced worker productivity (Kessler et al., 2006; Loeppke et al., 2007).

The World Health Organization (2001), in fact, has identified depression as the leading cause of disability in the world. Work performance difficulties related to stress and depressive disorders are often due to difficulty with social interaction (such as withdrawal or irritability), diffuse pains, sleep difficulties, and reduced cognitive abilities (including decision-making, problem-solving, and memory; Arnetz & Ekman, 2006; Langlieb & DePaulo, 2008).

Purely negative attributions to stress, however, may be misplaced. LeGault (2006) describes that some authorities view a certain amount of stress as a necessary stimulus to productive work. He suggests overuse of the term stress may create a sense of resignation or acceptance that life events and emotions are unmanageable, uncontrollable, and that one can do very little about it. Stress may actually be a necessary stimulus to assuming responsibility, using reasoning abilities, and taking actions to change one’s situation in life.

The duality of stress creates a dilemma because there are both positive and negative aspects to stress. The term, adrenaline rush, which describes the desirable aspect of the stress response, has become synonymous with drive, motivation, ingenuity, healthy competition, and zest for living. Some employers seek to harness the positive aspects of stress, providing just enough challenges to energize workers and enhance creativity, without pushing employees beyond their abilities to cope. When employees do go over the edge, however, and experience the negative aspects of the stress response, their work performance and their general health may

be affected (Anderson et al., 2000). Furthermore, what one perceives as prolonged or excessive stress is highly variable from person to person.

Organizations use a number of strategies to protect their human capital, to help workers cope more effectively and adapt to changes and stress in the workplace. Intervention may be directed toward change at the individual level or the organizational level. At the individual level, the intervention often follows a medical model where health professionals teach individuals about the pathology of stress and ways to reduce the stress response. Organizational models, on the other hand, are directed at the nature of work itself, how it is organized and communicated, in order to reduce stress in the first place. While organizational approaches are less common, they hold promise in addressing the sources of stress (Couser, 2008). Some emerging organizational approaches focus on positive features, or what is working well in the workplace, rather than negative aspects. Rather than using problem-based strategies, these approaches focus on strength-building to encourage resilience, or the ability to bounce back from adverse circumstances, in individuals and in the organization itself (Sutcliffe & Vogus, 2003).

This review begins by discussing the role social construction has played in how we label stress and organize interventions for individuals with stress disorders today. Next, it will review the major approaches for intervention – individual-level interventions based on a medical model and organizational-based approaches. It will conclude by discussing challenges due to fragmentation of intervention delivery systems and possible solutions through enhanced collaboration among disciplines within organizations and among colleagues in other organizations.

## Social Construction of Disease

Numerous labels for the physical and emotional effects of the stress response have developed over time and have changed in response to social, scientific, and professional traditions. The following section describes how one of these terms, neurasthenia, came into use, and subsequently fell out of favor, to illustrate the social construction of disease.

Society today is undergoing rapid transformation. Technological advances are rapidly transforming the media and modes of social communication and work routines. For example, cell phones and lap top computers allow 24-hour access to information and blur the lines of the traditional “work day.” Rapid societal change associated with technological advances is not without precedent, however. Johannisson (2006), a scholar of the history of science, describes social change at the turn of the 19$^{th}$ century as equally dramatic to today’s pace of change. Industrialization, its corresponding mass urbanization, and the international influence on capital markets created stark changes in social patterns. Widespread use of electricity and new technology brought vastly different ways of traveling to and from work and new ways of communicating, just as workers experience today. Large centralized workplaces required long commutes for workers, and pressures to produce products strained the minds and bodies of workers.

Sociologists of the time predicted people would experience inner conflict when vastly different new ways of life replaced familiar old ways. Indeed, the strain of new styles of work became apparent as symptoms, such as fatigue and overstrain, began appearing in medical discussions during the 1870s (Johannisson, 2006). Physicians in this era made a hierarchical distinction in the kinds of fatigue experienced by different categories of workers. They labeled mental fatigue experienced by the more cerebral work of privileged groups, such as businessmen

and intellectual professionals, as *neurasthenia.* The fatigue was frequently accompanied by many physical ailments (such as headaches and diffuse pain) and often by symptoms of what we now call depression (including melancholy and insomnia).

Over time, physicians began dividing the categories of symptoms, defining each symptom with a distinct diagnosis, and assigning pathology with either physical or psychiatric labels. This practice fell in line with the reasoning of Descartes' mind-body dichotomy (Asmundson & Wright, 2004). In addition, physicians eventually began applying the term *neurasthenia* to women and to more manual, lower class workers. No longer viewed as a condition of privileged intellectuals, the diagnosis of neurasthenia lost favor, and the medical community no longer uses it today although the cluster of physical and emotional symptoms still occur.

*Changes in Labels*

Over time, additional labels have come into favor for conditions similar to neurasthenia. The term, *stress,* for example, arose with work by Walter Cannon, Hans Selye, and others in the early to mid-1900s (Cannon, 1932; Selye, 1956). These researchers studied the body's physiological responses to various kinds of threats or pressures. Additional terms, such as *burnout, chronic fatigue syndrome,* and *psychological distress,* all of which share similarities to symptoms of neurasthenia, have entered the diagnostic vernacular as well as the popular media in modern times.

Researchers of *depression* acknowledge that this condition is also frequently comorbid with physical conditions, such as pain, heart disease, and diabetes (Arnow et al., 2009; Kessler et al., 2003). Thus, the symptoms related to what was once called neurasthenia have not changed;

rather, society and its various stakeholders have changed the way the condition is perceived and labeled over time through implicit and explicit consensus. Johannisson (2006) notes that. . .

> . . . there is an aspect of every diagnosis that can be called the social construction of disease. This also doesn't mean that anything can be called a disease or that the disease doesn't, in fact, exist. It indicates rather that the identity and illness possesses – from its traditional medical identity (cause, diagnosis, prognosis, and treatment) to its meaning for patients, doctors, and the surroundings – is never a neutral consequence of biological factors. It functions instead as a social process with several participants, including doctors, patients, the health insurance system, the pharmaceutical industry, the media and the cultural codes that constantly redefine what will be permitted to be called sick (p. 18).

It is this aspect of *being called sick* that creates difficulty in the workplace. Workers often experience a variety of psychological threats, challenges, and strains, yet they respond in vastly different ways. Some perceive themselves to be fragile, emotionally and physically. Others truly become ill with stress-related symptoms and disorders when life becomes overwhelming. Still others rebound resiliently and avoid illness altogether. Mood disorders, including depression and bipolar disorder, may occur in the absence of stressors, but these disorders are much more likely to occur or to become chronic in response to stressful life events or circumstances (Kim, Miklowitz, Biuckians, & Mullen, 2007; Maletic et al., 2007).

*Medical Model and DSM*

Labeling of mental conditions today occurs around a model created by the American Psychiatric Association. The Diagnostic and Statistical Manual, or DSM, was created to help medical and psychiatric professions form a common vocabulary for discussing illnesses and conditions. The DSM system has been instrumental for allowing psychiatry to establish specific criteria in order to assess prevalence and impact of mental disorders. Major studies over the last 20 years, including ECA and NCS-R, have helped illuminate the high prevalence and the potential for disablement associated with mental illness (Insel & Fenton, 2009).

Recognizing the role of stress as a treatable condition and an area of focus for psychiatry has been controversial. Diagnoses related to stress were included in the first DSM manual, written in the post-World War II era. The DSM creators used the term Gross Stress Reaction to describe both military stressors, such as death camps and war prisons, as well as non-military catastrophes, including earthquakes and fires (Andreasen, 2004; Marshall, Spitzer, & Liebowitz, 1999).

The DSM-II, however, omitted the diagnosis of Gross Stress Reaction altogether "for reasons that remain obscure" (Andreasen, 2004). Some authors conjecture that DSM framers or their constituents feared that diagnoses of stress would be exploited through litigation or otherwise abused (Marshall et al., 1999). They may also have been concerned that over-identifying conditions that many viewed as common and not truly pathological could risk over-extending professional and financial resources for treatment.

The APA added stress back into the DSM-III in the diagnoses of Acute Stress Disorder and Post Traumatic Stress Disorder (PTSD; Marshall et al., 1999). Some authorities, however, find the criteria for these to be limiting since they require a traumatic event of marked seriousness, which is difficult to quantify. A diagnostic category of Adjustment Disorder was also added to categorize people having marked difficulty adjusting to new life circumstances. Strain, Klipstein, and Newcom (2008) point out this diagnosis allowed for identifying people with stress-related difficulties, yet the criteria for identifying emotional or behavioral symptoms in response to stress are frequently unclear. "This apparent chaos, lack of specificity and questionable reliability and validity are the hallmark of interface disorders and subthreshold phenomena, whether they are in diabetes mellitus, hypertension, or depression" (p. 771). Attention to this "subthreshold" syndrome and its symptoms, they say, may ". . . forestall

evolution to more serious disorders and allow remediation before relationships, work, and functioning have been so impaired that they are disrupted or permanently sundered" (p. 759). Thus, the DSM system, built around the medical model for diagnosing and treating disorders of a serious magnitude, may not be sufficient for early detection and preventive treatment for people struggling with stress. In addition, this emphasis on serious mental illness may only serve to create more stigma for those receiving psychiatric services.

Psychiatry has tended to focus more and more on what it views as serious mental illness, and increasingly associates itself with the biological sciences in parallel with the discovery of effective antidepressants and other medications (Casey, Dowrick, & Wilkinson, 2001). If the discipline of psychiatry really wants to align with biology, however, psychiatrists might examine changes in cardiology, which has become more oriented to prevention, public health, and health promotion models. Public health researchers have used epidemiologic approaches to study the risk factors that predispose individuals to coronary heart disease for over 50 years, yet the first textbook in preventive cardiology was published as recently as the year 2000. Epidemiologic research finally convinced skeptics that serum cholesterol and diets rich in saturated fat and cholesterol were true risk factors for coronary heart disease (Wong, Black, & Gardin, 2000).

Marked shifts in thinking occurred over a period of about 50 years in terms of the causality of coronary heart disease and the ability to delay or prevent morbidity while improving quality of life and reducing health care costs (Wong et al., 2000). The risk assessment and screening strategies common to preventive medicine and health promotion (e.g., health risk appraisals checking family history, blood pressure and cholesterol checks, etc.) are now viewed as part of the scope of cardiology, which has shifted focus from purely fixing serious illness to including prevention and risk reduction. Such strategies also empower individuals to be more in

charge of and responsible for their own health. This paradigm shift in the practice of cardiology did not occur quickly, but it has transpired as a result of social construction (i.e., changed perceptions and revised conversations on the part of cardiologists, other professionals and institutions, and the public).

Just as with cardiovascular disease, we now understand that risks for mental disorders begin early in life and that many factors influence their development. Insel and Fenton (2009) point out a stark challenge for psychiatry as a public health discipline – delayed diagnosis and inadequate care are the norm rather than the exception. Psychiatry must acknowledge that those who seek treatment are a small percentage of the population with disorders. Most of the care for mental disorders and their risk factors occurs in primary care (again, similar to cardiovascular disease), other social settings (such as churches or community resources), or in the workplace through employee assistance programs (Druss & Rosenheck, 2000; Strain et al., 2008). Perhaps prevention and early identification might occur more readily to reduce progression of chronic and disabling mental conditions if psychiatrists were to align more closely with these sources of diagnosis and care. Considering that cardiology has a thirty-year lead on psychiatry in terms of epidemiologic studies and movement toward prevention, changes in this direction are likely to require concerted effort, and such revisions will be gradual at best.

Other authorities in mental health besides psychiatry are questioning the disease-based medical model. Martin Seligman, the developer of a movement within the psychology field known as positive psychology, believes, “Psychology joined forces with psychiatry to create the scientific field of what could go wrong with people” (Peterson & Seligman, 2003, p.15). He acknowledges that psychiatry and psychology, by focusing on pathology have made strides in relieving the suffering of people with very difficult conditions. Moreover, the focus on illness has

had a cost. "Human beings are seen as flawed and fragile, casualties of cruel environments or bad genetics, and if not in denial then at best in recovery. This worldview has crept into the common culture of the United States. We have become a nation of self-identified victims, and our heroes and heroines are called survivors and nothing more" (Peterson & Seligman, 2003, p. 15).

Scholars of positive psychology are attempting to challenge the traditional paradigms of mental health care by making different assumptions and posing different questions from those who assume a disease model. Seligman advises that changing the disease paradigm will require a strong infrastructure and senior leaders willing to move beyond typical academic habits of thinking. Theory and research will need to establish measures that consider positive independent and dependent variables. In other words, tools with positive paradigms replace the well-established symptom checklists and interviews that assess symptomatology for pathological states, or at the very best the absence of symptoms. "There is a world of difference between people who are *not* suicidal, *not* lethargic, and *not* self-deprecating versus those who bound out of bed in the morning with smiles on their face and twinkles in their eyes" (Peterson & Seligman, 2003, p. 26). Indeed, workplaces with a preponderance of employees who are enthusiastic and energized by their work may be better equipped to take on the challenges of contemporary organizations.

*Section Summary*

Social and biomedical researchers have studied for many years the condition commonly known today as stress, but this term as a diagnosis has been controversial. Disorders related to stress must be serious and the stressors severe in order to meet criteria for mental illness, which may be reasonable since every person may struggle somewhat with life stress at one point or another. This may reduce attention, however, on proactive preventive strategies. Positive

psychology, rather than examining pathology as in the medical model, looks upon one's strengths and opportunities for increasing them.

## Individual-Level Interventions for Addressing Stress

The primary focus of interventions for addressing stress have been at the individual level, or with the expectation of change being within the employee. Clinicians (psychologists, social workers, general physicians, nurses, or psychiatrists) frequently work individually with clients in a clinical setting under the medical model with reimbursement provided through medical and/or behavioral health benefits paid for by employers. Training professionals may also implement interventions onsite at the workplace using an adult education model in a classroom setting. In either case, interventionists employ *explicit* learning strategies (explaining, demonstrating, teaching pertinent concepts and skills to learners) to help individuals develop insight and learn skills in order to recover from stressful circumstances more effectively.

Interventions may target the following three points in the stress cycle: 1) the intensity of stressors, 2) the individual's appraisal of the stressful situation, or 3) their ability to cope successfully (Richardson & Rothstein, 2008). These interventions include individual counseling as well as education on relaxation, meditation, and lifestyle behavior change, such as exercise, yoga, and tai chi (Noblet & Lamontagne, 2006). Education on coping skills, time management, goal setting, and organizing skills are also common. In addition, clinicians may deliver interventions to individuals within group settings or through electronic delivery. Both of these methods have unique attributes. Group setting provide social support, which may be therapeutic, and electronic resources allow for high flexibility for users as well as anonymity (Barrios-Choplin, McCraty, & Cryer, 1997; Kurioka, Muto, & Tarumi, 2001).

*Relaxation Interventions*

Clinicians draw on a number of techniques to help individuals reduce the physiological response to stress, including relaxation and meditation. Progressive muscle relaxation, also called neuromuscular relaxation, was developed by physician Edmund Jacobson (1938) when he discovered that teaching patients to progressively tense and release the muscle tension in various parts of the body helped people recover from illnesses. Psychiatrist Johannes Schultz (Schultz & Luthe, 1959) developed a method called autogenic training in which he led clients through a process of eliciting heaviness and warmth in limbs to elicit relaxation. Both methods continue to be used in individual counseling and multi-component stress management programs. A meta-analysis of 60 studies found autogenic training generally effective for reducing a variety of conditions with psychosomatic symptoms (symptoms often related to stress), such as headaches, hypertension, asthma, somatoform pain disorder, anxiety, depression, and sleep disorders (Stetter & Kupper, 2002).

Benson (Benson & Proctor, 1985) developed a simple relaxation technique in the 1970s for his patients with cardiovascular disease. Based on a Westernized version of meditation common in Eastern religions, Benson's Relaxation Response encourages individuals to focus on a particular word or phrase to help slow the heart rate and reduce other physiological responses to stress. Numerous studies have found this technique to be consistently effective in reducing percieved stress, hypertension, insomnia, and pain syndromes (Benson, 1982; Dusek et al., 2008).

*Interventions Derived from Psychotherapy*

*Cognitive Behavior Therapy.* Cognitive behavior therapy (CBT) is a form of psychotherapy originally developed to address distorted beliefs and faulty thinking patterns that

are common to people with depression (Beck, 2005). CBT has an extensive body of evidence supporting its effectiveness with depression, anger, acute stress disorder, PTSD, generalized anxiety disorder, and chronic pain conditions (Bryant, Moulds, Guthrie, & Nixon, 2005; Butler, Chapman, Forman, & Beck, 2006; Markowitz, 2008). Van der Klink et al (2001), in a meta-analysis of 48 studies, found a moderate effect for CBT and multimodal stress interventions but only a small effect for relaxation types of interventions.

Therapists using CBT help clients to structure ways to practice alternative cognitive and behavior patterns. Therapists typically use open-ended questions and reflection to promote self-discovery about distorted thinking and resulting moods and behaviors that interfere with the client's life and their desired goals. Self-directed assignments are often a feature of CBT for learning outside of the therapy situation. These include increasing pleasurable activities as well as analyzing thoughts, emotions, and physiologic response in problem situations (Ledley, Marx, & Heimberg, 2005; McCullough, 2000).

Researchers are examining a variety of innovative formats for offering CBT in order to increase access to treatment, remove barriers, and improve treatment adherence. Formats including group, telephone, and web-based delivery methods have been found effective in treating individual (Grime, 2004; Miller & Weissman, 2002; Proudfoot et al., 2003; Weissman, Markowitz, & Klerman, 2000).

*Interpersonal Psychotherapy.* Interpersonal psychotherapy (IPT) is an effective treatment for depression that is being adapted for used with patients who have PTSD (Bleiberg & Markowitz, 2005). Finding effective treatments for PTSD is important in light of the large number of service men and women returning from active duty experiencing PTSD who are attempting to reintegrate into the workplace (Vasterling, Verfaellie, & Sullivan, 2009).

Therapists using IPT focus on clients' problems in interpersonal and social functioning as a means to symptom relief. The client's social functioning is discussed in relation to four areas: 1) grief and loss (death and miscarriage, for example), 2) role disputes (such as conflicts with spouse or coworker), 3) role transitions (such as divorce or becoming a parent) and 4) interpersonal deficits (social and communication skills; Weissman et al., 2000).

In their description of IPT in the context of PTSD, Bleiberg and Markowitz contend that the medical model upon which IPT is based may help PTSD patients relinquish guilt and self-blame for current difficulties knowing they are due to a medical illness. They further contend that IPT helps build a sense of mastery over current interpersonal situations, such as trusting others, establishing boundaries, and overcoming fears of vulnerability in social interactions. The intervention study these researchers conducted was not based in the workplace, yet building mastery over interpersonal difficulties,  seems common to many who struggle with workplace stress even if they do not have a PTSD diagnosis. Eight of the 14 subjects in the Bleiberg and Markowitz study also had secondary diagnoses of major depression but were not being treated for that condition. The fact that the subjects responded to an invitation to participate in an intervention for PTSD instead is noteworthy. Perhaps the PTSD diagnosis was somehow more preferable or less stigmatizing than the idea of depression.

*Other Individual-level Interventions*

Other interventions delivered in medical model approaches include mindfulness meditation and other mind-body interventions, nutritional interventions, and medications. These are described in the next sections.

*Mindfulness-based Intervention.* Kabat-Zin (1985) developed a variant of cognitive behavior therapy for people with pain conditions called Mindfulness-based Stress Management

(MBSR) that has been used with people with a variety of chronic health impairments including chronic stress and depression. This structured 8-week form of intervention based on Buddhist meditative practices teaches participants to observe thoughts, sensations, and feelings in a detached, non-judgmental frame of mind (Grossman, Niemann, Schmidt, & Walach, 2004; Williams, Teasdale, Segal, & Kabat-Zinn, 2007).

Mindfulness meditation is based on the healing power of non-judgmental awareness of one's thoughts and sensations from one moment to the next  The practice follows Buddhist principles of compassion and acceptance; however, the intervention is a non-religious intervention typically offered by a trained instructor in a group format. Participants are asked to practice 45 to 60 minutes daily on their own at home between sessions to deepen their skills in meditation, to develop discipline in completing the practice, and to gradually increase their awareness of cognitive and somatic perceptions. Over time, participants are encouraged to apply their learning to typical activities throughout the day, becoming more aware and observant during all aspects of their lives, developing deeper inner resources for a greater sense of well-being and an enhanced capacity for compassion, wisdom, and healing.

A number of clinical studies, including randomized controlled trials have consistently found this approach to be effective in 1) reducing stress and depression symptoms, 2) enhancing coping behaviors, and 3) reducing somatic complaints, such as pain and difficulty sleeping (Finucane & Mercer, 2006; Sephton et al., 2007). In a meta-analysis of 10 studies representing 771 individuals, mindfulness training consistently showed moderately strong effect sizes across a variety of samples (Grossman, Niemann,  Schmidt, & Walach, 2004). The positive findings of improved mental health and physical well-being across a broad range of disorders suggest the technique may enhance general coping as well as more specific changes in health parameters.

The combination of learning to quiet the central nervous system through meditation and learning alternative ways of viewing oneself and one's circumstances may be particularly helpful for people with chronic pain. Studies have also shown that mindfulness can reduce role limitations caused by physical health problems and can improve social functioning, with improvements maintained up to a year following completion of the program (Reibel, Greeson, Brainard, & Rosenzweig, 2001). These findings would suggest MBSR could play a positive role in reducing disability from chronic health problems.

A systematic review of studies using a mindfulness-based stress reduction program (MSBR) for people with cancer found positive improvements in mood, sleep quality, and stress (Smith, Richardson, Hoffman, & Pilkington, 2005). The reviewers also found those who continued meditating after the program were able to maintain benefits for longer periods. Other researchers reviewing studies of mindfulness meditation as an intervention for cancer patients in clinic-based group settings found consistently improved psychological functioning, reduction of stress symptoms, and enhanced coping and well-being in participants (Ot, Norris, & Bauer-Wu, 2006).

Several studies have found evidence of biological processes resulting from mindfulness meditation. In a randomized controlled trial studying EEGs of people practicing meditation versus non-meditating controls, researchers found significantly increased activation of the left anterior frontal region of the brain in participants who meditated. Activations of this region of the brain is associated with reductions in anxiety and negative affect and increases in positive affect (Davidson et al, 2003). In addition, participants who meditated showed increased indication of immune system function. Another study using magnetic resonance imaging found experience-dependent cortical plasticity in brain areas associated with attention, internal

sensations, and sensory processing in meditating participants compared to controls (Lazar et al, 2005).

Several studies have shown a dose-response effect between amount of practice of MBSR techniques and improvement in physiological and psychological outcomes (Smith, Richardson, Hoffman, & Pilkington, 2005). However, at least one study showed participants actually practiced much less than the 45 to 60 minutes daily on their own that is recommended, logging an average of about 15 minutes two or three times a week (Davidson et al, 2003). This may cause program planners to question the efficiency of this type of program for workplace settings. Additional research on the actual dose, or practice time, needed for improvement in symptoms would be valuable. This may help participants to be more adherent to optimal levels of practice.

In addition, most studies have examined outcomes at program completion and about three to six months post-program. Long-term studies would assess how mindfulness training influences outcomes over time. A study using qualitative interviews with participants of a mindfulness-based treatment suggested that future research incorporating follow-up sessions after program completion might help participants sustain improvements and maintain practice of the techniques for longer periods (Finucane & Mercer, 2006).

*Other Mind-body Approaches.* Tai chi, yoga, and meditation have been in practice for over 2,000 years, and these mind-body techniques are a main stay of Eastern medicine practice. In the U.S. and the Western world, however, the separation of the mind and emotions from the physical body, as described earlier, and the search for pathology and specific illnesses became common in the disease-based medical model.

Mind-body medicine, by contrast, focuses on interactions between mind, body, and spirit, and emphasizes health-promoting practices the individual can incorporate for healing (National

Center for Complementary and Alternative Medicine National Institutes of Health, 2007a). Mind-body practitioners view illness not simply as something to be cured by a professional, but as an opportunity for individual growth and transformation. Interest in mind-body techniques within the general public and within health researchers has increased in recent years.

Tai chi and yoga are forms of physical activity that researchers are studying in relation to a number of chronic medical conditions, including stress and depression. These practices both include aspects of slow gentle movement, deep breathing, relaxation, and meditation (Leddy, 2006). Because these movement forms are frequently practiced in groups, there may be an aspect of social support that is also therapeutic for people with mood disorders (Chou, 2008). Tai chi also frequently teaches concepts from Chinese philosophy related to the flow of vital energy, or *qi*, pronounced *chee,* and the individual's ability to harness energy for health (National Center for Complementary and Alternative Medicine National Institutes of Health, 2007b).

Although research thus far has consisted primarily of small studies having heterogeneous designs and outcome variables, there is preliminary support for using both tai chi and yoga by individuals with depression (Chou, 2008; Chou et al., 2004; Hill, Smith, Fearn, Rydberg, & Oliphant, 2007; Shapiro et al., 2007). A Cochrane Review is currently underway to review systematically the effect of tai chi on depression (Chi, Jordan-Marsh, Guo, Xie, & Zhang, 2008).

*Nutrition.* Studies suggesting that dietary intake of Omega-3 fatty acids may help with reduction of depressive symptoms (Berman, Sporn, Charney, & Mathew, 2009; Logan, 2004) have led to trials which suggest these fatty acids may also help protect immune function of people experiencing increased stress (Kiecolt-Glaser et al., 2007). Omega-3 fatty acids are long chain polyunsaturated fats derived from plants (including safflower, sunflower, and soybean oils) and marine animals (such as salmon, mackerel, and herring). Omega-3s may influence

neurotransmitter binding and cell signaling and may inhibit cytokine production related to inflammatory processes. Workplace health promotion programs frequently address nutrition in relation to cardiovascular disease but rarely address its potential influence on mental health.

*Medications.* Medications typically are not a first line treatment for the most common stress-related conditions described in the DSM-IV, acute stress and adjustment disorders. Medications are, however, prescribed frequently for individuals with PTSD. Antidepressants tend to act on the same neural circuits affected by this disorder and help reduce overactive startle responses common in PTSD (Nemeroff et al., 2006). Researchers are also studying pharmaceutical applications to determine if agents targeting fear-conditioning pathways may help alter the way the brain consolidates and encodes traumatic memories to reduce the disabling aspects of PTSD (Haglund, Nestadt, Cooper, Southwick, & Charney, 2009).

For many years, animal research on the effect of antidepressant medications focused on their acute actions on the neurotransmitters serotonin and norepinephrine. Antidepressants appeared to help neurons communicate across the synaptic cleft and bind to connecting neurons to improve neural transmission. As clinical research expanded to humans, however, researchers noted that it took several weeks to initiate mood elevation and behavioral changes in patients. Additional theories developed to explain the delay in the antidepressants' action. Research is now focused on a variety of brain regions and alternative mechanisms outside of neurochemical transmission, including neurogenesis (formation of new neurons), neurotrophic effects (proteins that help nourish neuronal tissue), neuronal connectivity and plasticity (formation of new synapses) and information processing (Castren, 2004; Krishnan & Nestler, 2008).

The role of the neurotransmitter, dopamine, and its modulating effect on limbic-cortical circuits in relation to experiencing and pursuing rewards is also a focus of current research.

Maleksman and colleagues (2005) compared levels of dopamine (DA) and serotonin and their metabolites following a forced swimming procedure in two strains of rats, one of which was a genetic animal model of depression. This further supports theories of detrimental effects of chronic stress on the dopamine system and the contribution of stress to depression.

*Reviews of Individual-level Interventions*

Interventions directed at individuals, typically based on the medical model, generally provide benefits to the individual in relieving a number of symptoms related to stress and mood disorders. These benefits may include physical changes, such as reduced muscle tension and physiological arousal. Cognitive and behavioral changes, such as identifying and practicing more proactive behaviors and changing dysfunctional cognitions and emotions, may be more effective in reducing stress. Richard and Rothstein (2008) found in their meta-analysis that these cognitive-behavioral interventions tended to produce larger effect sizes than the relaxation and meditation types of programs. Employers are more likely to implement what are called “tertiary or reactive stress management programs” to teach employees how to reduce the stress response rather than “cognitive behavioral approaches [that] are more likely to equip workers with knowledge, skills, and resources to cope with stressful situations” thereby limiting the stress response from occurring (Lamontagne, Keegel, Louie, Ostry, & Landsbergis, 2007, p. 269).

A systematic review and two meta-analyses of workplace stress intervention research conducted from 1990 to 2005 found that while studies tend to be small, and methodological designs and outcome measures varied widely, individual-focused approaches are effective at the individual level (Lamontagne et al., 2007; Noblet & Lamontagne, 2006; Richardson & Rothstein, 2008). In other words, studies report improvements in such variables as self-reported stress levels, anxiety, depression, blood pressure, heart rate, or muscle contractions.

Furthermore, the individual-level interventions described are often provided to the individual in a clinical setting away from work. This requires an investment of time on the part of the individual employee, and these services often require payment by the individual rather than being covered by the employer through a general medical benefit. In addition, the interventions may be effective in reducing some of the symptoms of stress but may not sufficiently address the sources of workplace stress in context.

In addition, few studies using individual-focused interventions have measured the impact on organizational-level outcomes, such as absenteeism, turnover, disability, or work productivity. Those that have measured organizational-level outcomes have not found individual-level interventions to strongly influence organizational outcomes (Lamontagne et al., 2007; Noblet & Lamontagne, 2006; Richardson & Rothstein, 2008). Authorities suggest that it is unrealistic to expect individuals to sustain benefits of such programs if persistent stress-producing circumstances in the work environment remain (Barry & Jenkins, 2007).

*Section Summary*

Researchers suggest most of the individual-level interventions described above are effective in reducing stress symptoms, but such approaches have some limitations in the context of the workplace. It is difficult to apply some of these solutions, such as relaxation for example, in the heat of distressing interaction with a supervisor. Intervention models directed at individuals do not take into account that workplaces are systems with multiple components. The individual employee is just one unit.

Individual-level programs may be viewed as “blaming the victim” for sources of stress over which they have no authority, such as autocratic management style and insufficient training (Noblet & Lamontagne, 2006), p. 348. Furthermore, workplace behavior change programs in

general have difficulty recruiting certain populations, such as blue collar, hourly workers, low-readers, and other employees who may benefit more from other types of support. Authorities suggest viewing stress more from a systems framework and considering the multiple contributions of stress, including organizational issues as well as family and home demands that could be moderated by workplace policies, work load, flexibility and social support (Ertel, Koenen, & Berkman, 2008; LaMontagne, Shaw, Ostry, Louie, & Keegel, 2006).

## Organizational-level Studies

Organizational-level studies have been influenced by early researchers who began investigating the nature of work and the impact of organizations on groups of workers and the organizations themselves. One study frequently cited in the workplace stress literature was completed by Yerkes and Dodson (1908) who examined the varying effects of arousal on task performance. These researchers found that individuals who reflected increased physiological arousal (i.e., in response to challenging circumstances) showed improved performance on learning and intellectual tasks, but only to a certain point. With higher levels of arousal, performance deteriorated. This concept of physiological arousal has been interpreted in association with workplace factors and the stress response. Some stress (i.e., moderate challenge) improves performance, prompts creative problem solving, motivates action; too much leads to decreased performance, exhaustion, and burnout. The Yerkes-Dodson Law is now commonly used to illustrate maximal work performance when work provides the “just right challenge,” or optimal use of skills. (Refer to Figure 1.)

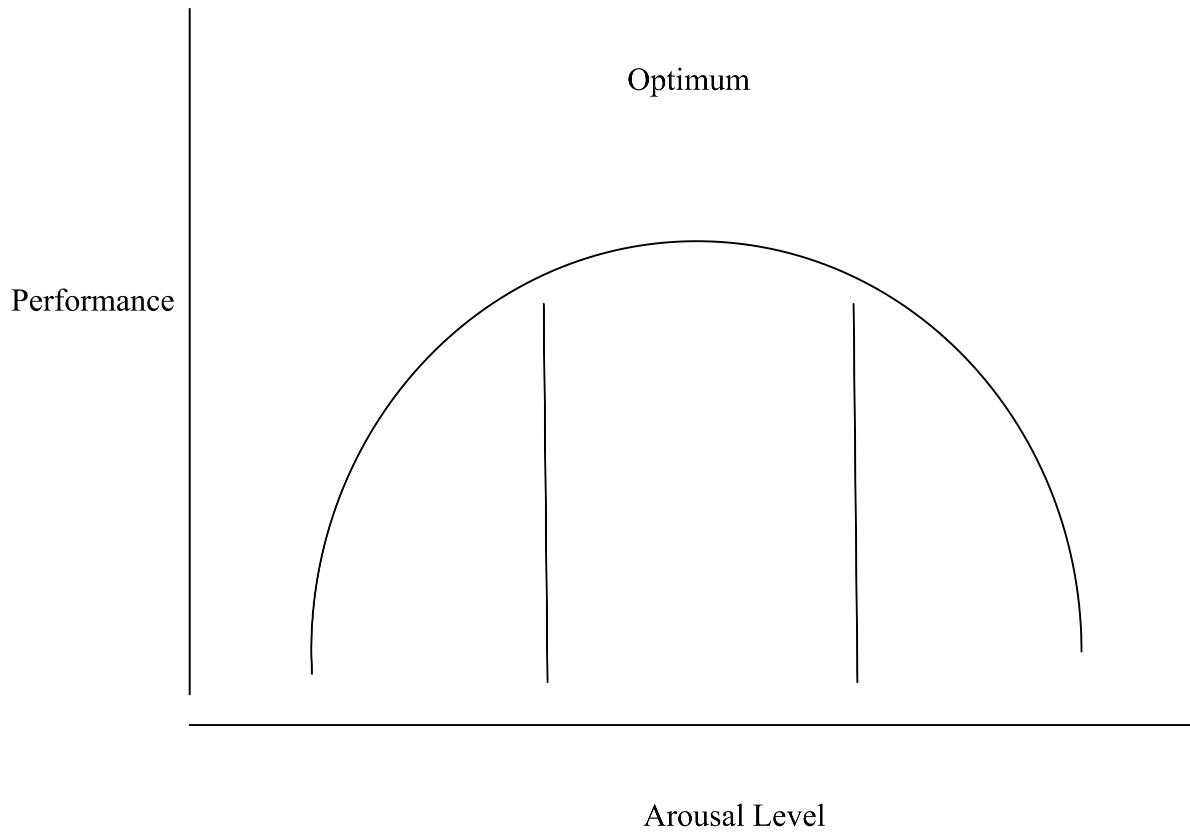


*Figure 1.* Simple Representation of the Yerkes Dodson Law: Performance improves as arousal (stress) increases then performance deteriorates under conditions of excessive stress. Adapted from Fisher (1986), p. 96.

*Major Models for Organizational Stress*

While Yerkes and Dodson's work pointed out that some aspects of stress enhance work performance, the majority of research in the past 20 years has emphasized the opposite end of the continuum, or the aspects of work that are distressing and that contribute to deterioration of work abilities. The preponderance of organizational stress research has focused on two models.

*Demand-Control Model.* The Demand-Control Model (DCM) has been the most widely studied theoretical model examining the association between working conditions and psychosocial stress (LaMontagne et al., 2006). The model, developed by Karasek in 1979, suggests high levels of stress occur when an individual has high job demands but has inadequate decision-making authority, or low control. Job demands include the volume of work as well as the time constraints required for completing the work. Karasek and Theorell (1990) later modified the model postulating that social support from one's supervisor and colleagues predicts fewer adverse health outcomes even under conditions of high demands and low control. The revised model is known as the Demand-Control-Support model (DCS).

*Effort-Reward Imbalance Model.* The second model predominant in organizational stress research is Siegrest's Effort-Reward Imbalance (ERI) model. The ERI model places emphasis on rewards rather than control of work (Siegrist, 1996). It proposes that work is a contractual reciprocal exchange of rewards for individual effort. Rewards include financial remuneration, self-esteem, status, or security/career opportunities. Jobs requiring high effort for little reward violate this basic social exchange and elicit stress responses with mental and physical health consequences. The concept of effort includes both personal traits (such as need for control, intrinsic motivation, and commitment) and situational factors in the workplace that increase demands (Siegrist, 1996).

A number of studies using both prospective and cross sectional designs have supported both the DCS and the ERI models. Both models find job stress predictive of adverse health outcomes (including cardiovascular disease, anxiety, depression, and emotional exhaustion) as well as work performance outcomes including regular absences from work (*absenteeism*) and decreased performance while at work due to health conditions (*presenteeism*; Bonde, 2008; Lamontagne et al., 2007; Van Der Doef & Maes, 1999). These studies have been used to identify working conditions that may be targeted in organizational change strategies. Some authors have suggested that the DCS model may be superior for examining stress within particular occupations, such as blue-collar jobs compared to managerial positions, while the ERI model may be especially useful for studying occupations that may be motivated by intrinsic rewards besides remuneration, such as empathy and caring of health care and service professionals. The ERI model may also be more appropriate for contemporary work forces that have more day-to-day decision latitude but highly variable levels of rewards and commitment to the job (Calnan, Wainwright, Forsythe, Wall, & Almond, 2001). In addition the ERI may better assess stress and subjective well-being related to job instability, underemployment, and career fragmentation in current economic challenges (de Jonge, Bosma, Peter, & Siegrist, 2000).

*Presenteeism.* Organizational researchers have also studied decreased on-the-job work performance (*presenteeism*) due to mental or physical impairments in the context of organizational stressors. Presenteeism represents workers who are still at work but are not working effectively. Biron and colleagues (2006) found heavy workloads, higher skill discretion, positive relationships with co-workers, role conflict, and uncertain job status increased presenteeism (i.e., decreased work performance). Those workers with high strain from psychological stress and more somatic complaints also reported more presenteeism. The authors

conclude that using presenteeism as an outcome indicator in addition to absenteeism will give employers a clearer picture of factors that affect work output. This aspect of presenteeism is particularly important to consider in the current economy, which depends heavily on workers' cognitive skills for problem solving and decision-making as well as interactive skills for team participation and client service. This variable is a relatively new construct that increasingly is being included in organizational health studies studying indirect costs of illness which are thought to far outweigh direct costs of treatment (Kessler et al., 2004; Loeppke et al., 2009).

*Comorbidities.* Researchers have also examined how organizational factors affect physical and mental disorders that frequently are comorbid with stress disorders. For example, Katz et al (2005) found a combination of factors associated with a return to work following surgery for carpal tunnel syndrome, a common condition among office workers. Lowered self-efficacy, along with greater psychological demands, lower job control, less social support of supervisors, and lower job security, were associated with increased absence six months after surgery. A number of studies have found increased incidence of depression in employees who perceive they have high-demand jobs with low decision latitude and low social support, with some studies showing gender differences and others no difference between men and women (Bonde, 2008; Shields, 2006).

A motivational pattern of over-commitment to work in addition to high effort, low rewards, and low task control also contributed to depression (Dragano et al., 2008). A meta-analysis of a large number of over 70 studies surveying employee attitudes assessing how the organization valued their individual contributions indicated that low levels of perceived organizational support (especially from supervisors) are associated with increased physical symptoms of job stress, such as fatigue, anxiety, and headaches (Rhoades & Eisenberger, 2002).

Co-morbid chronic medical conditions and those co-occurring with anxiety disorders or clinical depression can significantly affect absence and work performance (Kessler et al., 2004), yet general medical conditions and behavioral disorders are frequently treated in separate systems of care and, in many companies, are paid for through entirely different benefit plans.

Some employers are adjusting their disability management strategies to better address the behavioral health and organizational aspects of disability. Returning to work after an extended leave of absence can be anxiety producing in itself. Employees wonder how much personal health information to share with supervisors and co-workers, and they may question whether they can perform their job at the level to which they did previously. Workplaces are beginning to use mediators from employee assistance programs (psychologists, therapists, social workers) or return-to-work disability management coordinators (nurses, occupational therapists, physical therapists, etc.) to help workers returning from extended leaves of absence to transition successfully back to full time work. These mediators may help facilitate communication, identify worker or supervisor concerns, suggest work process or schedule adaptations, and monitor agreements of both parties over time (Disability Management Employers Coalition, 2009). Thus, intervention is contextual and focused on returning workers to optimal functional abilities.

*System Level Interventions.* Lamontagne and colleagues (2007) identify interventions addressing organizational issues, including such aspects as job redesign, work-load reduction, improving organizational communication, and conflict management, as primary prevention strategies with a high systems approach. In other words, these interventions include high participation of multiple levels with the organization and high employee participation in determining solutions to work problems that create stress. The underlying assumption of such approaches is that organizational aspects are the focus of change and that stressful conditions

will be reduced or prevented, not that the individual's perceptions of or responses to stress should be modified, as in secondary or tertiary interventions.

In their systematic review of the job-stress intervention literature from 1990 to 2005, Lamontagne, et al. found that studies with high systems approaches have been fewer in number than studies of individual level interventions but have been growing in proportion over the analysis period. Studies involving organizational or systems level interventions were more likely than studies of individual level interventions to measure organizational level outcomes and to have a greater influence on such variables. The most common organizational variable measured was absenteeism. Others include turnover, disability rates, work performance, and sales levels. None of the studies measured presenteeism, or being present on the job but not performing work due to illness. These authors conclude employers should place greater emphasis on organization level variables.

*Assessing Outcomes.* Measuring organizational outcomes is important for establishing a business case for senior managers so that programs are funded sufficiently. In light of current economic downturns and budget cuts within corporations, documenting potential cost savings through preventive approaches is critical. While some organizations implement programs of social value with the statement, "It's just the right thing to do" [HEB Grocers EIP profile, 2009], economic outcomes are of primary interest to employers. Without economic viability, there is no business to manage.

Those workplaces using interventions that were more preventive in nature tended to have the highest reductions in absenteeism (Nielsen, Kristensen, & Smith-Hansen, 2002, as cited in Lamontagne et al., 2007). The collaborative/participatory approach involving employees in discussions and decisions about work is considered an important feature of such programs. These

authors suggest that interventions at the organizational level (primary prevention) are of greatest value to the organization as a whole, but they also emphasize that individual-level interventions are effective and play an important role.

Secondary interventions, such as cognitive behavior therapy, coping skill training, and anger management, help build individual skills, and tertiary programs, including return-to-work and short term rehabilitative approaches, help return those individuals disabled by stress back to productive roles. These programs should, however, be better integrated at the organizational policy level in order to examine how they affect organizational outcomes. This current disconnect in practice is likely due to limited interaction among the variety of professionals providing such programs and their tendency to exist in separate silos of care, such as occupational health, workers compensation, or wellness, and to collect outcomes data separately. In addition, such providers typically do not have access to organization-level data, such as absence, turnover, disability rates, which is housed in human resources.

## Other Organizational Approaches

### *Organizational Communication*

Another area of study related to organizational stress falls under the domains of organizational communication, sociology, and organizational and social psychology. Researchers in these areas have examined a number of aspects of work. Described here are three concepts, including 1) the effect of virtual work and dispersed workers, 2) the model of emotional labor and burnout, and 3) social support.

*Virtual Work and Dispersed Workers.* Virtual work (work enabled by technological connections) and dispersed workers (those working from home or remote offices) have

introduced new issues related to work stress and the balance between work and personal life. Virtual work increased by nearly 100% from 1997 to 2000 (Wiesenfeld, Raghuram, & Garud, 2001), and it meets many needs of modern corporations.  It allows for global dispersion of workers and flexible schedules for dual-worker families while taking advantage of technical advances. This type of work is highly common in organizations with sales forces, call center and technical support workers, multi-national locations, and at-home workers.

Virtual and dispersed work can provide (real or perceived) enhanced flexibility for workers, and it helps to reduce overhead costs for employers. Drawbacks, however, may include social isolation, lack of peer support, communication misunderstandings, difficulty with personal time interfering with work time or the opposite (i.e., difficulty setting boundaries), reduced organizational and role identity for workers, and challenges in supervising for managers. All of these factors may be stressful.

Some studies, however, suggest virtual work can reduce perceived stress. Factors that appear to help in reducing stress include: 1) Work roles and task criteria that are specific, clear to the worker, and reduce ambiguity and conflict, 2) social connections (organizational events that allow social interaction), 3) predictable opportunities for complex interactions (regular times and built in structures for periodic face-to-face meetings or phone updates, regular electronic communication, ways to build trust and discuss complex issues), and 4) attending to employee/organizational identity, through items as simple as  mugs, hats, or equipment with the company logo (Maznevski & Chudoba, 2000; Raghuram & Wiesenfeld, 2004; Sarker & Sahay, 2003; Stamper & Johlke, 2003; Wiesenfeld et al., 2001). In essence, these methods for defining one's identity and how the individual fits within the larger organization and creating opportunities to relate to and network with others in the organization allow for the formation of

communities. Through these communities, workers are able to create meaning around their work, define expectations for themselves and others, and participate in collective social relationships. These social connections and identity formations may help develop an emotional attachment to the organization or particular work group and reduce stress through social support.

*Emotional Labor.* Another area of study under the organizational communication domain is the stress inherent to particular worker populations and the emotional expression required for the job. Hochschild (1985) introduced the concept of "emotional labor" to describe the intense feelings and emotions that may develop during interactions with clients in certain kinds of work, such as flight attendants. She and other scholars extended this work in association with stress by linking the concepts of *burnout* (physical and emotional exhaustion from prolonged stress or intense emotional work; Maslach & Schaufeli, 1993), empathy, and communication. They have studied a number of different professions where burnout might be common, such as human service, health care, and customer service. Frequently these types of workers are required to play the organizational role, act in a certain way (e.g., always being courteous to clients who are demeaning), or bound one's emotions in emotionally charged circumstances for the sake of the organization or particular position. This may create a conflict between the person's role as a unique individual and the expected role of the job, a conflict that may be exhausting.

Miller extended the study of emotional and physical burnout by looking at workers' perceived level of control and tolerance for ambiguity finding that social support plays a role in mediating these work-related uncertainties (Miller, Ellis, Zook, & Lyles, 1990). She also found that job involvement, organizational role, and service workers' attitudes about service recipients moderated levels of worker burnout (Miller, Birkholt, Scott, & Stage, 1995). Supervisors who

use empathic communication with workers, and workers who empathize with clients, may be able to reduce stress and increase levels of work satisfaction and personal accomplishment.

Miller and Koesten (2008)summarize a model in which empathy (either feeling *with* or feeling *for* a client) and vulnerability for easily aroused emotions, places individuals at risk of physical and emotional distress. Their work demonstrating emotional labor in financial planners, who often establish long-term emotional relationships with clients, is especially timely in light of recent challenges in the U.S. and global economy and the pressures placed on financial professionals. These scholars found high levels of empathic concern, communicative responsiveness, and emotional attachment in financial planners, which predicted burnout in this population (Miller & Koesten, 2008). These characteristics, perhaps more readily expected in human service professionals, may be common in a variety of professions.

Indeed, Ashforth and Humphrey (1993) studied the emotional labor concept in the customer service industry by studying call center employees. They found that employees who use *deep acting* (or perform their customer service role in a sincerely empathic manner, purposely changing their actual feelings to express emotions needed by the organization) are less likely to experience stress and burnout than if they are merely *surface acting* (putting on a face or faking their response). The authors attribute this difference in burnout to decreased emotional dissonance, or tension between expression and true feelings. Larson and Yao (2005) suggest physicians are another occupational group that may benefit from using deep acting, or generating deep empathic emotional and cognitive reactions. This may help physicians develop more therapeutic relationships with patients and thereby help to reduce burnout. These abilities, which they suggest are developed through observation, experience, and immersion, might be enhanced through experienced physicians mentoring interns and residents.

Other authors have suggested that burnout is not limited to the type of work or the emotional display required by the job, but also to the compatibility (or incompatibility) of the job and employee needs or preferences in a variety of realms. These may include such things as a drive for creativity, need for stimulation (or, conversely, difficulty with excessive stimulation), spontaneity, predictability, or internal locus of control. Burnout or emotional exhaustion may occur when the work is incompatible with employee ego needs, and may require emotional estrangement and depersonalization (Noworol, Zarcynski, Fafrowicz, & Marek, 1993). This may also lead to a reduced sense of personal accomplishment and disillusionment.

All of the examples in this section suggest a sense of depersonalization and emotional investment or conflict creates a mismatch between the job requirements and the person's ability to cope. Interestingly, the term stress is not always included in discussions of emotional labor and burnout, yet this imbalance between individuals' perceptions of work demands and their ability to cope with the demands is the very definition of work stress (Cox, Kuk, & Leiter, 1993). Perhaps this omission reflects a stigma for the term stress or a desire for researchers who are rooted more in sociological approaches rather than biomedical or psychological traditions to develop a construct with more social dimensions.

In contrast, Grandey, who studies emotional labor in the service industry (Grandey, 2003; Grandey, Dickter, & Sin, 2004), suggests one weakness in the emotional labor research is that it is not tied to the physiological aspects of emotion. She suggested merging the typical organizational and field studies common to emotional labor research with the more controlled laboratory studies of Ekman and other scholars who examine physiological correlates and self-appraised emotion (Grandey, 2000).

Grandey's comments illustrate a phenomenon common to many areas of organizational health, a lack of integration with other theories and interdisciplinary lines of research that tie theoretical concepts together. Greater understanding of the work of other disciplines may enhance the value of each domain through the sharing of knowledge, expansion of meaning, and generation of practical applications. While some practical applications have been suggested above (e.g., training and mentoring to develop empathy), it seems a great deal more research has been invested in theory development, defining, measuring, and model building, than in developing interventions or support for those struggling with work-related stress and burnout. As with workplace stress intervention studies described earlier, research on burnout has focused primarily on impact on the individual. The concept of organizational burnout, or depletion and exhaustion of collective resources, has been largely ignored (Hobfall & Shirom, 2001).

*Social Support.* An area of investigation that has led to both theory development and interventions for stress and burnout at work is the concept of social support, described as the provision of goods, benefits, encouragement, or reassurance through relationships (Hagihara, Tarumi, & Miller, 1998).

Studies have shown that the value of social support in buffering stress and burnout varies somewhat according to several factors, including gender, type of work, and personality characteristics. Still, the concept of social support is generally accepted, and researchers have suggested methods for building healthier and more productive work climates through enhancing social support of co-workers and/or supervisors. These include informal social networking, formal communication training, trust building, clarifying roles, and incorporating participative decision-making (Golembiewski, 2001). In addition, this type of research has led to a focus on

supervisor-subordinate relationships, communication, and a tendency in organizations toward flatter structures and more team-based work (Cheney, Christensen, Zorn, & Ganesh, 2004).

*Organizational Development and Action Research*

A number of business schools support academic and professional development devoted to organizational change, typically termed *organizational development* (OD). The emergence of OD often is attributed to the work of Kurt Lewin, a professor of psychology and philosophy, who worked to establish a practical social science. Lewin felt social research should be not only valid and descriptive, but also useful for effecting change and participatory in nature, involving those whom would be affected by the change (Shaw, 2002). He used a spiral of planning, action, and fact-finding about the result of the action as the basis for his social research oriented to solving problems or uncovering characteristic ways of behaving within organizational groups (Lewin, 1951). Followers of Lewin who work with organizations in such reflective, collaborative processes to implement change are known as *action researchers* (Shaw, 2002). Action research allows OD practitioners to implement small-scale, team-oriented qualitative investigations and to dialogue about complex and personal problems that occur in many work settings and that may affect worker stress levels.

Other contributors to action research include Guba, Lincoln, and Argyris. Guba and Lincoln criticized over-adherence to a traditional objective research and dominance by managers and instead argued for admission of all relevant parties to the research process. The researcher is re-cast as a facilitator of an essentially self-evaluative process (Guba & Lincoln, 1989). Argyris has focused on experiential learning within organizations. He has criticized objectivist research on organizations (i.e., completed by agents outside of the organization) as not producing actionable knowledge on how to reduce organizational learning barriers. Advice from such

researchers, according to Argyris, is either disconnected from the world of practice or actually strengthens the barriers to productive change (Argyris, 1999).

Argyris' work with businesses and other organizations involves facilitation of reflection and dialogue to uncover theories of action (i.e., how we see ourselves acting and how we speak of it to others), defensive reasoning, and methods for advancing organizational change. Defensive routines in organizations occur repeatedly, protecting workers from losing face, preserving managerial control, and preserving a sense of continuity (Shaw, 2002). OD consultants may work to elicit defensive routines that limit productive change and help participants become mindful of the negative impact of defensiveness.

The nature of OD is practical, applied intervention, or an interactive research process that results in organizational action in context, rather than inquiry purely for knowledge sake. Action researchers have used a wide variety of approaches and generated numerous terms for similar concepts. This has contributed to confusion about this type of research and challenged its acceptance in academic circles. In addition, adherents to conventional, or positivist, approaches have criticized action research for introducing a form of advocacy and subjectivity, thus reducing the unbiased objective role that academics often believe the researcher should play (Denzin & Lincoln, 2003).

Conventional researchers also question if it is necessarily the role of research to facilitate action. Some assert there is a role for research for knowledge sake alone, i.e., to advance theory without the expectation of change tied directly to the research. Linear models that begin with theoretical rationale and move on to the generation of hypotheses and to specific methods tied to specific questions have advantages in terms of being reproducible and generalizable. Action research may be criticized for paying less attention to generating theory and producing less

scholarly work since the outcomes tend to focus on social change rather than traditional modes for dissemination of results such as scholarly papers and publications (Munhall, 2007).

Putting individuals in the workplace in a position to learn and better understand the factors shaping their lives, empowering them in ways that help develop confidence for producing self-sustaining changes, is something that may not occur in traditional research focused on advancing theory. While conventional research may claim objectivity, in practice no research is completely objective. Habermas (1971) suggests knowledge production is always pursued with an interest in mind and is never neutral. He further claims that power relationships frequently distort communication and the generation of knowledge. Critical reflection and dialogue are required in order to understand how power constrains knowledge.

A certain amount of bias is reflected simply by the topics chosen to research. Researchers using self-report questionnaires may influence participants simply by the questions they ask. Argyris (1994) asserts that in conventional organizational research, supervisors gather data selectively, choosing self-serving objects and measures to reflect well on the supervisor. He suggests much traditional research inhibits employees' thoughtful reflection on attitudes and behaviors that could make meaningful differences while perpetuating mind-sets of top-down control and prevents empowerment.

Organizational managers tend to engage OD practitioners to help solve particular workplace problems, ones that are likely creating stress for workers and managers and reducing work performance. Thus, the focus for OD is on operational problem solving, and the measurement of success is whether a process or work situation has improved (i.e. reduced costs, increased profits, improved employee or customer satisfaction, or improved production or service quality). Levels of stress are infrequently included as measurable outcomes, and large

scale organizational outcomes, such as absenteeism or turnover, are also unlikely to be measured. However, considering the complex nature of organizations and the rapid change occurring in many workplace settings today, quantitative methods alone appear to omit the important role of human interaction, reflective processing, and emotional engagement needed for creative and innovative change. Research paradigms that involve participants in their own investigative process (perhaps with some quantitative data to guide thinking) and support employees as catalysts for meaningful change may be highly advantageous in today's complex and competitive marketplace.

Researchers who are disconnected enough to be unbiased may not have enough enthusiasm or passion for organizational changes that require significant effort to be accomplished. Those who are highly invested in the outcome, while clearly not unbiased, may be more likely to act on the results when they have been involved in the process. Particularly for groups that have historically been disempowered, such as workers in large institutions, especially those with low expectations and little hope for change, a process that generates discovery and hope within the context of their lives and experiences and provides a progressive pathway for action may be worthy of attention.

Some organizations are addressing ways to engage employees and enhance work performance without focusing on the word stress. Work in the area of *engagement* addresses factors that create an emotional, physical, and cognitive drive to work. These include such things as role clarity, job-person-environment fit, mentoring, communication (many which were mentioned previously in the context of organizational level interventions). This work tends to occur through management consulting firms that complete research on engagement with individual clients and report it privately to other potential clients or in the form of white papers,

not in peer reviewed literature. Business people, however, are accustomed to this type of communication for applied decision-making. Efforts at enhancing engagement, with a focus on improving work production, may also reduce stress and depression, yet these variables are not typically measured in relation to engagement

*Positive Organizational Scholarship*

An emerging approach to organizational research has a contrasting view to the problem-solving organizational development approaches described previously. A group of researchers from the Michigan Business School have proposed a new interdisciplinary area of study that pays greater attention to synergistic variables within organizations that create positive social dynamics and outcomes, rather than focusing purely on economic outcomes or using problem-based approaches (Cameron, Dutton, & Quinn, 2003). Their proposed positive organizational scholarship (POS) suggests that studying desirable states and building models based on these concepts may be more successful for organizations than strategies that elicit defensiveness and self-preserving routines. These researchers focus on the positive phenomena of meaningful work, high quality relationships, and committed leadership within an organizational context.

*Resilience.* One area of inquiry under the POS umbrella is the study of resilience. The term resilience has been used in a variety of domains, such as engineering, ecosystem management, and child development. A number of publications in the popular press have described resilience of individuals in the face of challenges, and several validated scales assessing traits, skills, and cognitive sets that contribute to individual resilience have been reported in peer-reviewed literature (Ahern, Kiehl, Sole, & Byers, 2006; Connor, 2006). These include such factors as an internal locus of control, positive outlook, ability to view change as a challenge, secure emotional attachment to others, ability to self-sooth, sense of humor, impulse

control, hopefulness, action-oriented, ability to express needs and engage support of others, and hopefulness.

In the context of organizational theory, resilience is seen not as an extraordinary trait or constant invulnerability of an individual or organization but rather a *process* of successful adaptation, coping, or bouncing back from adversity, change, or unanticipated dangers adaptively and competently. “An entity not only survives/thrives by positively adjusting to current adversity, but also, in the process of responding, strengthens its capabilities to make future adjustments” (Sutcliffe & Vogus, 2003; p. 97). Weick (2003), who has studied how organizations respond in disasters, echoes this view of organizational systems as inconstant, and he posits that resilient organizations are those that mindfully build an adaptive platform knowing well that it will face challenges and crises. The theory of resilience implies that a certain number of stressful experiences are actually necessary in order for mastery capacities to develop.

Researchers have described a number of factors as contributing to the organizational resilience process. These include 1) effective and timely communication, 2) coordination of change, 3) interlinking of competencies and resources, 4) commitment to the organization, 5) strong connections, 6) purpose/mission, 7) positive environment, 8) collective sense of efficacy, 9) clear job definitions/role clarity, 10) career development opportunities, 11) decision making/control opportunities, 12) job security, 13) social capital and supportive relationships (as with peers and supervisors), 14) conceptual slack (diversity in perspectives about organizational processes), and 15) a learning orientation (Bandura, 1997; Coutu, 2002; Ferris, Sinclair, & Kline, 2005; Horne, 1997; Sutcliffe & Vogus, 2003).

The list of factors above includes several concepts that were mentioned previously under the Demand-Control-Support (decision-making, control, social support) and Effort-Reward

Imbalance (commitment, career development, job security) models of workplace stress. Sutcliffe and Vogus (2003) point out that while many organizations tighten controls over individuals and processes during times of threat, more resilient organizations that allow loosening of control are often able to make more positive adjustments. In other words, individuals may require a greater sense of responsibility for their organization and empowerment to use their individual skills and abilities in order to help the organization collectively be more effective. The current economic crisis seems particularly challenging to both individual and organizational resiliency due to its widespread impact on job security and the unrelenting media attention surrounding it.

The economic crisis has resulted in markedly reduced workforces and increased time pressures. This means there are fewer opportunities for experienced workers to mentor workers with less experience, thereby reducing opportunities to build a sense of self-efficacy. Self-efficacy is a process Bandura describes as occurring through opportunities for personal mastery experiences, observations of other people managing tasks successfully, encouragement from others, and experiencing a physiological perception of challenge. Without this *implicit learning process,* which occurs in the context of work to build interpersonal, cognitive, and self-management skills, there is limited opportunity to develop a sense of efficacy (Bandura, 1977, 1997). Thus, perhaps greater attention should be paid to building opportunities for contextually rich, interactive learning in the workplace and building positive work-focused experiences, rather than didactic training in isolation.

As with research on organizational stress, it appears that many studies of organizational resilience have focused on model and theory development, along with observational case studies of organizations that have responded resiliently to adversity (Weick, 2003), rather than on effectiveness of intervention or change strategies for building organizational resilience. This may

be a reflection of the early stage of development of organizational stress theory as well as the difficulty in assessing organization-level outcomes, such as absence and work performance, as mentioned earlier. Those organizations that report outcomes of resilience interventions do so in the context of individual-level outcomes. For example, Jones reports that among 26,500 GlaxoSmithKline employees completing their half-day personal and team-based resilience training programs, 80% report reduced workplace pressures, 25% report a drop in work-life conflict, and 21% indicated increased satisfaction with GlaxoSmithKline as an employer (Spangler, Heck, Jones, & Bertini, 2009).

*Appreciative Inquiry.* Another type of inquiry considered part of Positive Organizational Scholarship, is a form of action research in organizations that builds an element of hope for change into the very fabric of its strategy. Appreciative inquiry encourages scholars and practitioners to elicit hopeful images of the future to catalyze change and transformation in organizations (Ludema, 2001). The collaborative nature of appreciative inquiry works to build strong relationships among the members of the organization and a context for building a hopeful common future.

Cooperrider, the originator of appreciative inquiry at Case Western University, suggests that the appreciative mode of inquiry is more than a method or technique, it is a way of directly involving participants in a life-generating process of organizational existence (Watkins & Mohr, 2001). Inquiry itself, and the words chosen to frame the inquiry, are thought to evoke powerful anticipatory images providing an impetus for positive change (Ludema, 2001). Similar to Argyris' description of theories of action (contrasting how we act and how we speak of it to others), appreciative inquiry's basis in social constructionism posits that the conversations, dialogues, and discourses we selectively have with ourselves and others about our past and

present collectively shape our future. Our own images of ourselves tend to be self-fulfilling. (Cooperrider, Sorensen, Yaeger, & Whitney, 2001). Thus, to provide momentum for positive change in organizations, Cooperrider suggests researchers and practitioners focus not on *problem* solving but rather on finding the *best* in organizations by facilitating positive dialogue and bringing to life imaginative stories in ways that analytic discussions are unable to do.

Watkins and Mohr (2001) provide detailed examples of the appreciative inquiry approach in action and case studies of previous work with organizations. They suggest practitioners may begin by leading a core group (a microcosm reflecting many different constituents and including but not over representing senior management) through a preparatory workshop to understand the rationale and practice methods for collecting data in a non-traditional way (i.e., individual's stories about positive images of the organization from the past).

Next, the group jointly determines interview protocols and identifies stakeholders to be interviewed. Following interviews (which may include hundreds of people interviewed by the core group or jointly interviewing each other), a mechanism is created to allow participants to "absorb and digest" the data (stories) and to react. This may take the form of a document compiled by the core group summarizing themes and asking additional questions. Following this process, members of the organization are invited to articulate an informed image of the future and develop a shared possibility statement, or "provocative proposition," based on the stories of the organization's past.

The statement may include components of the organization's social system (roles, relationships, policies), technical system (business processes, uses of technology), or environment (those things that support life and health within the organization), bridging the best of *what is* with a grounded but provocative image of *what might be*. Thus, appreciative inquiry

(AI) attempts not to provide a snapshot of current status but to generate energy for a shared future. This process may continue as the organization implements changes and participants reflect upon them further.

Cooperrider and his followers have used appreciative inquiry with a wide variety of organizations, including the Cleveland Clinic, the Institute for Cultural Affairs, McDonald's, Hunter Douglas, GTE, the Fairview School, and Yellow Roadway, to address a variety of organizational issues, such as diversity, optimal cooperative learning, business enhancement, and complex global issues (Cooperrider, Whitney, & Stavros, 2008). Evaluating the impact of AI varies according to the organization and the purpose of the initiative, but assessment has included client and/or employee satisfaction, organizational or departmental financial performance, changes in market share, new product development, and improvements in collaboration. Outcomes that might be associated with changes in perceived stress have not been linked with appreciative inquiry and would not be in line with the philosophy of examining positive aspects of an organization.

*Section Summary*

In summary, a large body of research has confirmed that a number of workplace factors affect stress levels, general health, coping, and abilities to work. There are vast numbers of studies examining individual- and organizational-level factors related to stress and corresponding mental, physical, and organizational outcomes. There is much research examining theories around identifying organizational factors, such as control, rewards, motivation, etc. There is much less empirical research regarding *how* to address these organizational issues and how effective such interventions may be in reducing stress and improving work performance. Furthermore, this type of organizational intervention research rarely is enacted in medical or

social science areas, where much theory-building research is housed. Instead, organizational research is conducted primarily by professors and students in schools of business and administration, yet the predominant focus of these departments remains finance, accounting. Business departments do typically address issues of management and leadership within the workplace but rarely address stress and depression specifically. A trend toward involving workers through action research and positive organizational scholarship approaches may help, however, in reducing organizational causes of stress.

## Conclusion and Directions for the Future

Employers in the United States appear to be recognizing the importance of addressing stress and mental health in the workplace as a way of protecting human capital, enhancing work performance abilities of their employees, and controlling rising costs related to health care and disability. Stressors that challenge human capital are very similar for today's workers as they were for workers a century ago. Technology, then and now, changes the nature of travel, communication, and the work itself, requiring constant adjustment to new conditions. Work life and home life regularly compete for an individual's limited time, energy, and attention, creating a sense of strain.

The numerous labels for the physical and emotional effects of the stress response, such as neurasthenia, distress, burnout, and emotional labor, have been constructed through social, scientific, and professional traditions. Scholars, typically operating in separate academic and professional disciplines, study these constructs in depth in an attempt to understand them, yet interventions to address them lag behind theory development.

Those who do study intervention tend to work with individuals to help reduce the negative physical, cognitive, and emotional aspects of stress, and interventionists have found a number of approaches that help to relieve stress-related symptoms. Relaxation-based approaches, psychotherapy (including cognitive behavior therapy and interpersonal psychotherapy), and mind-body interventions all appear to help individuals change their reactions to stress and build abilities to cope with stressors. Novel solutions that consider biopsychosocial aspects of disease *and* intervention have a number of advantages over more narrow approaches, yet our medical system currently tends to keep treatment of medical and mental illnesses separate (Bilsker, Gilbert, Myette, & Stewart-Patterson, 2004; Myette, 2008).

Employers and researchers who recognize that the separate systems created to treat behavioral and physical illnesses are not effectively reaching individuals early in the progression of chronic illnesses may play a role in building more effective systems for intervention. Identifying individuals and families that may be more vulnerable to stress-related and mood disorders, applying preventive interventions, and improving access to treatment is one suggested strategy (Couser, 2008). Another is recognition of the overlapping symptoms of chronic illnesses and opportunities to identify multifactorial contributions to physical and emotional symptoms through improved interdisciplinary communication and more collaborative care. Brief validated screening instruments for major depressive disorder and bipolar disorder may be incorporated into health risk appraisals that employers commonly use to help employees identify risks for many other chronic illnesses as the basis for worksite health promotion programs (Myette, 2008). To avoid stigma, innovative approaches using electronic media to deliver information and intervention may be considered (Grime, 2004). In addition, there are opportunities to integrate

social and organizational science with psychological, neurobiological, and developmental sciences in the study of chronic conditions.

Interventions that address workplace stress or its possible organizational contributions (lack of work role clarity, low social support, poor communication, mismatch in job-worker needs, work-life conflict, etc.) come from two traditions with contrasting types of measurement: 1) interventions based on a medical model and directed at individuals, measured through biomedical and behavioral changes in individuals with no assessment of organizational impact, and 2) interventions from an organizational development model, directed at multiple groups of workers, measured through work process or organizational level changes (and sometimes by employee satisfaction) with no assessment of the impact of worker health. Emerging research looking at these organizational factors may help workplace executives to better understand the important connection between health and productivity. Manageable stress in the form of job-related challenges may develop resiliency, yet it needs to be experienced along with social support to enhance sense of self-efficacy. Clinicians cannot prescribe these workplace conditions as they might prescribe treatment for individuals, yet physicians and other health professionals may indeed influence organizational leaders to address such conditions to influence worker health.

A recurring challenge in addressing workplace stress is that there seldom is sufficient interaction between various stakeholders. Academicians operate in one sphere, clinicians in another, and employers in yet another world entirely. Health researcher Myette (2008) suggests the "(c)ommunication disconnect between researchers and workplace decision-makers. . . results in the proverbial research finding in search of a practical application" (p.492-493). Researchers may be most effective if they enable employers to participate more fully in the research process,

to become co-investigators rather than being studied. By approaching the process as co-researchers, academicians may better understand the realities of the workplace.

Employers in the U.S. should understand they are not alone in the quest to better understand the connection between mental health and general well-being. Several other countries (UK and Australia, for example) have taken a stronger stance than the United States and require that businesses have programs in place to address organizational stress, including such things as workplace bullying, unclear supervisory and organizational communication, and excessive workplace pressures (Health and Safety Executive, n.d.).

Other cultures outside of the U.S. may look differently upon the emotional pain we consider only from a medical perspective and connect to depression in the U.S. The former Health Education Authority in the UK defines mental health as 'The emotional and spiritual resilience which enables us to enjoy life and to survive pain, disappointment and sadness' (HEA, 1997, p. 7, as cited in Barry & Jenkins, 2007). In Japan, the newer forms of antidepressant medications popular in the U.S. were not even available until as recently as 1999. One explanation advanced for this delay in adapting pharmacological treatment is that Japanese culture has traditionally been more accepting of melancholy and sadness as a natural human condition rather than an illness to be treated (Barber, 2008). In this social construction, the emotional pain was not something to avoid, but rather to learn from as in the UK definition. Multicultural workforces are common in today's global economy and may present challenges and opportunities for better understanding the social components of health and illness.

Part of the difficulty in addressing workplace stress is deciding who in the organization should be responsible for it. Many areas of workplace organizations are beginning to recognize the need for better understanding the influence of stress and to orchestrate proactive strategies.

While professionals in occupational health and safety, employee assistance programs, disability management, and health promotion all have separate systems for training, certification, and continued education, some have come together within and outside of their organizations to organize more collaborative approaches (Burton & Conti, 2008; Disability Management Employer Coalition, 2009).

It is important, however, to consider that all of these departments are typically housed under human resources in an organization and are thus separated from the actual operation of the business. Corporate leaders tend to view such programs purely as administrative (costs that must be managed and marginalized), not as internal strategic business partners capable of building leadership and purposefully advancing the company (Deloitte Touche Tohmatsu & Economist Intelligence Unit, 2007). Strategy and leadership are often reserved as executive level, top-down functions, yet executives may be disconnected from how their leadership influences worker health. Moving toward a human capital, bottom-up, intrinsic learning model may help to better connect the drivers of employee health and productivity to organizational strategy.

Business professionals turn to a variety of resources for help in making decisions about organizational issues. Information is housed in multiple departments within the workplace, and business people typically do not have easy access to research residing in multiple institutions, within multiple universities, and published in a variety of discipline-specific journals. Commonly, health insurance brokers and business consultancies that collect and periodically share aggregate information with their client groups hold influential positions. Furthermore, information produced by academics is most easily accessible to other academicians, not to the organizations that potentially could act on the information, or to those in the management and leadership trenches within the workplace. Even among academics, interdisciplinary sharing of

knowledge is rare. Even if information were shared, specialization often increases to the point that the concepts academics describe are not meaningful to those in the workplace who might apply the knowledge. A greater emphasis on broader collaboration and common terminology would be meaningful.

The high complexity of advanced knowledge and its dispersion into specialized domains and professional practices contributes to difficulties in integrating knowledge within an organization, whether a university or a workplace:

> "Supercomplexity arises when we are faced with conflicting frameworks with which to understand a situation. . . The parties to the dispute talk past each other because they are seeing the world quite differently," (Barnett, 2000; p. 88).

Improved stakeholder interaction will require structured opportunities established for the purpose of learning from each other and sharing specialty areas using common terminologies. Researchers in innovation in health care suggest that social networks (channels of communication and influence between friends and colleagues) are a factor in developing more effective collaborations and interorganizational communication. By contrast with rule-bound, conservative bureaucracies, innovative organizations are those with permission to break the rules, so to speak, and to share with others what they learned. Supportive communities of practice help to spread the news of innovators and to change colleagues' thinking (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004).

In conclusion, reaching a state of positive mental health, described by the WHO (2001) as "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively, and is able to make a contribution to his or her community" (p. 1) is vital for today's workplace. U.S. employers must work hand in hand with medical and organizational experts to offer effective services to individuals while building

workplaces that allow for communication and mastery experiences for workers. This will require mindful and purposeful approaches to change.

Considering the rapid change within organizations, the economy, and society in general, the ability to adapt to change is critical. Several authors suggest that a combination of individual and organizational approaches involving employees in a collaborative, participatory approach may be more effective in improving health and in achieving organizational goals than either in isolation (Lamontagne et al., 2007; Noblet & Lamontagne, 2006). Grawitch, Gottschalk, and Munz (2006) describe a configurational approach, or a "total system of organizational practices that together determine the health and effectiveness gained by the organization. . . [These] practices adopted by an organization must be consistent with one another as well as with the characteristics of the organization" (Grawitch, Gottschalk, & Munz, 2006; p. 139). The authors suggest there is a synergistic effect between employee involvement (e.g., in decision making and solving organizational problems), employee health and well being, and organizational improvements, including attendance, productivity, and health care costs.

Each workplace has a unique constellation of many individual and organizational variables and an organizational history with complexities that often influence processes and decisions for some time. Thus, generalizing about workplaces is difficult. Participatory approaches may allow each unique workplace to account for variables that are difficult to identify and put into operation in empirical studies but may nonetheless be important to consider for that particular organization. Greater understanding of what helps individuals and organizational systems become resilient to change and inevitable challenges within their unique context holds promise. Enhanced collaboration, both within organizations and among

organizations may help in creating and diffusing innovation for advancing knowledge and for developing healthy, engaged, and productive workers.

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