THE INFLUENCE OF POSITIVE WRITING ON

REPORTED STRESS AND JOB

PERFORMANCE

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I would like to dedicate this project to Jeff Gatica. Thank you for your endless support and patience throughout this whole process. It is truly amazing to know that no matter the outcome, I have someone that still believes in my abilities and my potential You will always be appreciated and loved.

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ABSTRACT

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Occupational stress can be a significant burden for individuals and organizations. Although work-related stress has been addressed in a number of occupations, those in the restaurant industry tend to be left out of work-stress research even though this sector employs more people than any other job sector in the United States. The present study addresses this particular group and the effects of positive writing on measures of stress and job performance compared to a control group who wrote about a neutral topic. Stress was measured using the Work Stress Inventory (WSI) which measures intensity and frequency of occupational risk and occupational stress. Monetary sales were used to indicate job performance measures. Although studies have demonstrated significant benefits of disclosing negative emotions through writing and through expressing positive

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emotions, writing about positive emotions did not differ from writing about a neutral topic when comparing measures of stress and job performance. Although there were no differences between writing conditions, there was a significant main effect of pre-test vs. post-test on subdivisions of the WSI such as intensity of occupational stress and frequency of occupational stress. Possible explanations for these results are provided in addition to discussion of improvements on the research as well as future implications.

CHAPTER I

INTRODUCTION

Job Stress

Job stress is one of the most severe causes of occupational hazards in Western Civilization (Jamal, 1999). Although different definitions of job stress are used, the general understanding is that job stress refers to the "inability of the individual worker to cope effectively with various work demands" (Blix, Cruise, Mitchell, & Blix, 1994, p. 158). Stress within the workplace causes physical and psychological problems as well as organizational problems (Jamal, 1999). The consequences of work-related stress are a significant burden on the economy and on the health-care system (Murphy & Sauter, 2003). Companies and organizations face substantial profit loss due to employee turnover and stress-related loss of productivity (Kelloway & Day, 2005). In addition, health care for stressed workers typically costs 50% more than health care for workers who are not stressed (Murphy & Sauter, 2003). The cost of health care triples when work stress is combined with depression (Murphy & Sauter, 2003). High health care costs can be attributed to the wide array of physical problems that are associated with job stress (Hock, 1998).

Physical consequences of stress include frequent illness, dizziness, digestive problems, and headaches (Hock, 1998). These conditions could escalate to ulcers,

asthma, sexual dysfunction, and loss of appetite. In turn, health problems can lead to the inability to perform one's job and to interpersonal conflict. Feelings of guilt, incompetency, and inadequacy can occur, affecting one's relationships and one's self-esteem (Hock, 1998). Decreases in psychological well-being such as job dissatisfaction and negative affect can lead to lowered job performance, high absenteeism, and burnout (Jamal, 1999). Although stress and burnout are related, burnout typically represents a more severe consequence of exposure to stress (Leiter & Maslach, 2001).

The primary factors of burnout are "overwhelming exhaustion, feelings of frustration, anger, and cynicism, and a sense of ineffectiveness and failure" (Leiter & Maslach, 2001, p. 415). Burnout occurs after prolonged exposure to job stress. It is a significant contributing factor to the physical, mental, interpersonal, and organizational problems that arise from work-related stress. Those who work within people-centered fields such as teachers (Blix et al., 1994), human services workers (Visser, Smets, & Haes, 2003), and medical professionals (Bakker, 2006) are particularly susceptible to burnout due to the nature of their jobs. These professions often require close interpersonal contact with people as well as selfless devotion and dedication to the student, client, or patient. Although research concerning the restaurant industry is limited, those who work within restaurants are also exposed to various sources of stress (Dempsey & Filiaggi, 2006). Workers who interact directly with customers, particularly servers, can have an impact on customer satisfaction (Boles & Babin, 1996). The overall consequence of stress not only affects the worker but also those who depend on the service or care provided by the worker (Leiter & Maslach, 2001). More often than not,

interpersonal and organizational resources are not enough to counter the daily stressors that can lead to burnout (Leiter & Maslach, 2001). Several studies indicate the occurrence and the severity of work-related stress among teachers (Jamal, 1999), human services workers (Visser et al., 2003), and medical professionals (Bakker, 2006).

Stress among Teachers

There is a considerable amount of research demonstrating work-related stress experienced by teachers. Sources of stress for teachers include interpersonal conflict, complex tasks, low professional recognition, classroom disruptions, administrative problems, and inadequate support (Mearns & Cain, 2003). High levels of stress among teachers were related to occurrences of burnout and distress (Mearns & Cain, 2003). Similarly, in a study conducted by Hock (1988) of 939 urban school teachers, almost half of the teachers reported feeling moderate to high levels of burnout.

Teachers who felt that they invested more than they gained from relationships with their students were likely to experience feelings of inequity (Taris, Peeters, LeBlanc, Schreurs, & Schaufeli, 2001). In turn, those who reported feelings of inequity were more likely to report feeling the negative symptoms of burnout such as exhaustion and diminished feelings of accomplishment. In short, unrecognized effort leaves teachers more susceptible to the negative effects of stress such as fatigue and exhaustion (Taris et al., 2001).

Jamal (1999) examined the relationship between work-related stress and employee well-being among teachers in an industrialized country (Canada) and a developing country (Pakistan). Job stress was significantly associated with burnout and turnover intention among both industrialized and developing countries. In addition,

increases in job stress were related to decreases in intrinsic motivation. In other words, the higher the perceived levels of stress, the more likely teachers in Canada and Pakistan would experience burnout or the desire to leave one's job (Jamal, 1999).

Blix and colleagues' (1994) investigation of university teachers showed that teachers reported stress-related symptoms such as burnout, reduced productivity, and turnover intention regardless of how they fit into their role as teachers. Participants reported that their motivational style matched the demands of their job, yet high levels of stress were still reported. The results of the study indicate that stress may still be a factor among those who feel that they are capable of functioning within their designated places of employment (Blix et al., 1994).

The majority of research on stress experienced by teachers has been conducted among urban settings (Rottier, Kelly, & Tomhave, 2001). Rottier and colleagues' (2001) investigation of work-related stress focused on teachers within a rural setting. Similar to studies conducted in urban settings, teachers in small schools reported feelings of stress and dissatisfaction. A slight majority of the teachers reported intentions of leaving their job. Teachers within larger urban settings reported more experiences of physical consequences of stress than those within rural settings. Although the consequences of stress may differ among settings, stress is still present among teachers in large urban cities as well as teachers in small rural towns (Rottier et al., 2001).

In sum, the experience of stress is high among teachers regardless of factors such as interpersonal motivation, industrialization, and city size. Similarly, stress is prevalent among human services workers regardless of the different professions that fit within this category.

Stress among Human Services Professionals

Human services can be considered work that involves providing support or help to others (Ross, Altmaier, & Russell, 1989). Counseling and social work are part of the human services profession. Research has shown that those who are in the human services fields are highly susceptible to stress and its negative consequences (Ross et al., 1989). Factors that are associated with burnout within human services can be divided into three categories: organizational, interpersonal, and personal (Söderfeldt, Söderfeldt, & Warg, 1995). Organizational-based stress can stem from a lack of control, ambiguous role expectations, unhappiness in one's position, lack of adequate pay, and difficulties providing care for clients. Interpersonal sources of stress can be a result of emotional attachment to clients and their problems, and negative relationships with clients. Personal factors such as daily stressors, family problems, and one's attitude can also affect perceived stress and the occurrence of burnout (Söderfeldt et al., 1995).

Social workers often work closely with women and children who are under significant distress (Baker, O'Brien, & Salahuddin, 2007). Exposure to these circumstances can lead to experiences of stress and burnout (Baker et al., 2007). Those who work among the elderly have similar experiences of stress. A study of geriatric care workers showed reports of high levels of stress and exhaustion (Rafnsdottir, Gunnersdottir, & Tomasson, 2004). Stress effects of exhaustion were related to higher occurrences of hospital visits among workers (Rafnsdottir et al., 2004).

In an assessment of 169 counseling center professionals, participants reported experiencing high levels of stress and a lack of social support (Ross et al., 1989). Higher levels of stress and lower measures of perceived social support were more indicative of

experiences of burnout. Specifically, lack of supervisor support was significantly related to reports of higher levels of burnout. Interestingly, although lack of support was related to high levels of stress and burnout, the presence of support was not enough to completely counter these negative effects. These findings indicate that there may be other factors that influence the outcome of stress (Ross et al., 1989).

Overall, stress among human services workers will not only affect workers, but their clients as well. Similarly, stress for teachers can have a negative impact on students (Mearns & Cain, 2003). Both human services professionals (Söderfeldt et al., 1995) and teachers (Mearns & Cain, 2003) work among vulnerable populations that rely on the professional's ability to perform their jobs. In addition, these occupations are associated with organizational pressures and interpersonal conflict (Mearns & Cain, 2003; Söderfeldt et al., 1995). The inability to effectively help others becomes an important factor when considering the consequences of stress (Bakker, 2006). Similar to those who rely on human services workers and teachers, the public relies on the ability of medical professionals and criminal justice personnel to provide adequate care and protection (Bakker, 2006). Stress among these professions can become a serious problem for everyone.

Stress among Medical and Criminal Justice Professionals

The negative effects of stress are an increasing problem among those in the medical field (Visser et al., 2003). The problems created by stress affect medical professionals and the patients who rely on their care and expertise. A study of 1573 Dutch medical specialists conducted by Visser and colleagues (2003) showed that over half (55%) the participants reported high levels of stress even though the majority (81%)

reported having high job satisfaction. Experiences of burnout were explained by both high levels of perceived stress and low job satisfaction. Organizational factors such as work schedule, administrative duties, management responsibilities, and type of employment were also indicators of burnout (Visser et al., 2003).

The emotional demands of nurses and police officers can exacerbate the consequences of stress (Bakker, 2006). Nurses are expected to react to patients in a concerned and empathetic manner. But at the same time, they are also expected to control their emotions and to react professionally in situations such as the death of a patient. Similarly, police officers are expected to demonstrate a detached and straightforward reaction to the people they encounter but also to express sympathy and concern for victims of crime. The inconsistency in emotional expectation may lead to emotional dissonance for both groups. Emotional dissonance experienced by nurses and police officers was related to emotional exhaustion—an important factor in burnout. In addition, emotional dissonance was also related to decreases in job performance (Bakker, 2006).

Although correctional officers do not work closely with people, their jobs provide an important service for society. A meta-analysis of 43 studies conducted by Schaufeli and Peeters (2000) assessed job stress among correctional officers. The high rate of turnover among correctional officers is indicative of the amount of stress experienced by this particular group. The study offered four general types of stress experienced by correctional officers: "withdrawal behaviors, psychosomatic diseases, negative attitudes, and burnout" (p. 28). Correctional officers typically reacted to these stressors by quitting or missing work. The average turnover rate among correctional officers was 16.2% with

a reported national high of 38 percent. Such a high turnover rate can cause several costly problems such as overwork for those who do not quit, desperate attempts at recruitment, and increased costs of training new recruits (Schaufeli & Peeters, 2000).

Taken as a whole, although medical professionals, police officers, and correctional officers have different job demands, their daily stress can have a profound impact on their own lives and the lives of others. Their experiences of stress can affect the health, safety, and well-being of others. Teachers (Mearns & Cain, 2003) and human services workers (Söderfeldt et al., 1995) face similar circumstances since their stress can affect how they interact with their students and clients, respectively. Stress experienced by restaurant workers can also affect others, such as customers, as well as themselves (Leiter & Maslach, 2001). Although the restaurant industry maintains one of the highest rates of employment in the United States (U.S. Bureau of Labor Statistics, 2007), this group tends to be overlooked in job-stress research.

The Restaurant Industry

There are approximately 500 million Americans that work within restaurants (U.S. Bureau of Labor Statistics, 2007). Job turnover typically reaches 100% annually throughout the industry and is as high as 200% for servers (Bills, 1999). Job turnover is a costly problem for any organization (Kelloway & Day, 2005), especially an industry that maintains such a high turnover rate. By focusing on the restaurant industry, work stress research could impact the lives of a substantial number of people including workers, employers, and customers.

Organizational requirements of restaurant servers include having to accurately take, place, and serve orders during peak volumes of business (Dempsey & Filiaggi,

2006). Other job responsibilities include proper food handling and cleaning (Dempsey & Filiaggi, 2006). In addition to occupational demands, restaurant employees face occupational risks on a daily basis such as falls, strains, burns, overexertion, and exposure to harmful chemicals (Dempsey & Filiaggi, 2006). Also, the restaurant industry offers very little means of promotion (Bills, 1999). Typical promotions in the restaurant industry are busboy to cook or employee to manager, with minimal opportunities within management (Bills, 1999). A study of restaurant servers conducted by Dempsey and Filiaggi (2006) indicated that almost half of the participants were also students and nearly a quarter of the participants held other jobs. Maintaining multiple responsibilities outside of the workplace may also add to job-related stress. If all of these elements are considered together, those within the restaurant industry are exposed to a significant level of occupational stress. Stress may not only affect employee psychological health and emotional well-being, but job performance as well (Leiter & Maslach, 2001). Since restaurant employees engage in customer service, their job performance can also directly affect the customer (Bakker, 2006) and in turn, company revenue.

Currently, there is an insufficient amount of research that specifically addresses stress within the restaurant industry. However, the literature concerning stress among teachers, human services workers, medical staff, and criminal justice professionals warrant effective intervention approaches that may be applied to the restaurant industry. Interventions for work-related stress can be organizationally-based or individually-based depending on the needs of the employee and the nature of the organization (Murphy & Sauter, 2003). A brief look into these interventions may illustrate future approaches for addressing work-related stress.

Current Interventions for Work-Related Stress

Although a large amount of research demonstrates the presence of stress in the workplace, current research has shifted focus from the occurrence and effects of stress to interventions to help improve the workplace and individual well-being (Innstrand, Espnes, & Mykletun, 2004). Companies that promote employee health have lower health care expenses and absenteeism (Eisen, Allen, Bollash, & Pescatello, 2008).

Attempts to alleviate work-related stress include individual-based interventions and organizational-based interventions (Murphy & Sauter, 2003). Organizational interventions such as staff and administration changes intend to reduce psychological strain by targeting the source of stress. However, changing the function of an entire organization can be extremely costly and may not prove to be effective since individual perceptions and experiences of stress can differ. Organizational changes may eliminate stressors for some while creating new stressors for others. In addition, reducing the source of stress does not necessarily reduce levels of stress among workers (Murphy & Sauter, 2003).

This does not imply that organizational interventions should not be used. Stress outcomes can benefit from utilizing both types of interventions (Kelloway & Day, 2005). Innstrand and colleagues (2004) implemented organizational and personal interventions to treat symptoms of stress among human services staff members. Three interventions were used at the organizational level: career assessment, schedule reorganization, and orientation improvements for new employees. An exercise program was offered as an individual level intervention to improve personal well-being. Participants exposed to the

various interventions reported lower levels of stress and higher levels of job satisfaction compared to those in the control group (Innstrand et al., 2004).

Even with the success of organizational interventions, companies often look for cost-effective approaches to stress (Murphy & Sauter, 2003). Unfortunately, cost effective options are more difficult to achieve with organizational interventions. The cost of organizational interventions may be the reason why individual-based interventions are more widely used to address work-related stress. From an administrative stand-point, individual level interventions are easier to implement and require less risk-taking. Stress-management approaches such as meditation, relaxation training, and cognitive development can be implemented to reduce stress experienced by the individual (Murphy & Sauter, 2003). Cognitive-behavioral interventions such as relaxation training have been successful in reducing stress (Eisen et al., 2008). A type of cognitive-behavioral intervention, Abbreviated Progressive Relaxation Training (APRT), has been successful in reducing perceived stress in both in-person and computer-based training (Eisen et al., 2008).

In a study of case managers working with patients with severe mental illness, Koeske, Kirk, and Koeske (1993) assessed coping strategies as a buffer for reported stress. Control-oriented coping strategies were compared to avoidance-oriented coping strategies. Control-oriented strategies are behaviors or attitudes that focus on reducing or eliminating sources of stress. Examples of control-oriented behaviors include talking about the source of stress or working toward a solution to the problem. Control-oriented attitudes include seeing the positive side of the situation or viewing the situation more objectively. Avoidance-oriented strategies are behaviors or attitudes that seek to ignore

or forget about sources of stress. Excessive drinking or abusing drugs are examples of avoidance-oriented behavior. Suppressing one's feelings or denying the problem are examples of avoidance-oriented attitudes. Those who utilized control-oriented coping strategies showed significant improvement in reported levels of stress and burnout than those who utilized avoidance-oriented coping strategies (Koeske et al., 1995). A study conducted by Anderson (2000) showed similar results when comparing coping strategies. Utilization of control-oriented or active coping methods among child services workers resulted in lower measures of depersonalization (a component of burnout) compared to using avoidant coping strategies (Anderson, 2000).

Even with various types of stress intervention programs in place, organizations still need a significant amount of help from the research community to find a successful approach to the problems surrounding job stress (Murphy & Sauter, 2003). Much of the current literature on individual level intervention focuses on stress management techniques designed to reduce symptoms of stress. Research needs to include assessment of the effectiveness of current stress programs along with continued efforts for new intervention approaches (Murphy & Sauter, 2003).

Disclosure writing has been linked to health benefits in various studies (Sloan & Marx, 2004) and may prove to be a beneficial new approach to job stress interventions. Disclosure writing involves writing about an intensely traumatic or stressful event over a number of sessions (Sloan & Marx, 2004). Disclosure writing has only recently been utilized in work-stress research (Alford, Malouff, & Osland, 2005). Child services workers were assigned to either a writing group or a control (non-writing) group to assess the effects of expressive writing on stress levels and job satisfaction. Participants in the

writing group showed decreases in measures of stress and increases in job satisfaction. The findings suggest that benefits of expressive writing should be taken into consideration when addressing work-related stress (Alford et al., 2005). Giving employees an opportunity to express their emotions may lead to significant benefits for companies and workers. The benefits of expressive writing have been established in studies involving participants who were either healthy, physically ill, or under psychological strain (Byrne-Davis et al., 2006). Understanding these benefits may help uncover ways to manage work-related stress.

Disclosure Writing

Inhibiting emotions can act as a chronic stressor, resulting in impaired psychological and physical function (Ullrich & Lutgendorf, 2002). Expressing one's emotions through writing can release harmful emotional tension, improving one's health and well being (Ullrich & Lutgendorf, 2002). Pennebaker has pioneered research on disclosure writing (Burton & King, 2003). Since his investigations, disclosure writing has been used to address a range of health issues among various populations (Brown & Heimberg, 2001). The premise behind the benefits of disclosure writing is that it allows insight into one's emotional state and offers an understanding of unexamined experiences (Burton & King, 2003).

Pennebaker (1997) explains the standard technique used in disclosure writing paradigms. Participants are asked to write for three to five consecutive days for 15 to 30 minutes each session. Typical instructions for writing resemble the following:

> For the next 3 days, I would like for you to write about your very deepest thoughts and feelings about an extremely important emotional issue that has

affected you and your life. In your writing I'd like you to really let go and explore your very deepest emotions and thoughts. You might tie your topic to your relationships with others including parents, lovers, friends, or relatives, to your past, your present, or your future, or to who you have been, who you would like to be, or who you are now. You may write about the same general issues or experiences on all days of writing or on different topics each day. All of your writing will be completely confidential. Don't worry about spelling, sentence structure, or grammar. The only rule is that once you begin writing, continue to do so until your time is up (p. 162).

Over the past two decades research on disclosure writing has revealed that writing about negative experiences can reduce measures of physical ailment (Sloan & Marx, 2004). Improvements in physical health are typically assessed by number of doctor visits, extent of health complaints, or reports of improved health (Sloan & Marx, 2004).

Benefits of Disclosure Writing

Disclosure writing has been studied among a variety of populations including trauma victims, healthy individuals, and those suffering from chronic illness (Creswell, Lam, Stanton, Taylor, Bower, & Sherman, 2007). Disclosure writing has been shown to improve the well-being of patients with HIV, fibromyalgia, chronic pain, and cancer (Creswell et al., 2007). In a meta-analysis of disclosure research, Harris (2006) found that healthy individuals benefited from expressive writing through decreased utilization of health care facilities. Those with severe physical ailments (e.g., cancer or rheumatoid arthritis) or psychological disturbances (e.g., Post Traumatic Stress Disorder or depression) did not show decreases in health care utilization. However, it is important to

realize that health care utilization is not the only measure of improved physical or psychological well-being (Byrne-Davis et al., 2006). Psychological health or physical health can also be measured through indices of self report (Lepore & Greenberg, 2002), personal performance (Lumley & Provenzano, 2003) and cortisol levels (Sloan & Marx, 2004.)

Healthy undergraduate students experiencing a breakup showed fewer symptoms of physical illness and fatigue after utilizing expressive writing compared to their counterparts who did not utilize expressive writing (Lepore & Greenberg, 2002). In a similar study conducted by Lumley and Provenzano (2003), college students who wrote about traumatic experiences showed improvements in academic performance.

Sloan and Marx (2004) conducted a study of disclosure writing among women with a history of Post Traumatic Stress Disorder (PTSD). The study included both subjective reports of stress and objective measures of cortisol levels. Cortisol, a glucocorticoid hormone, is closely tied to the stress response system (Lai et al., 2005). The human body releases cortisol when exposed to a stressor as an adaptive response. This natural function becomes dysfunctional and can lead to illness when the body is exposed to chronic stress (Lai et al., 2005). Writing about traumatic experiences over three days resulted in decreases in salivary cortisol and decreases in subjective reports of stress (Sloan & Marx, 2004). Teens with asthma who participated in disclosure writing showed decreases in asthma symptoms and functional impairment compared to baseline measures and measures taken from control groups (Warner et al., 2006). In addition, those in the disclosure group showed improved coping abilities and increased positive

affect (Warner et al., 2006). Patients with renal cell carcinoma reported improvements in sleep patterns after completing an expressive writing task (Moor et al., 2002).

Written emotional disclosure may also offer beneficial effects for patients suffering from fibromyalgia, a chronic pain disorder (Gillis, Lumley, Mosley-Williams, Leisen, & Roehrs, 2006). After three months, disclosure led to a decrease in hospital visits and negative mood and an improvement in sleep patterns. Interestingly, benefits of disclosure writing were not present during the one month follow-up. Similarly, breast cancer patients reported an increase in negative measures at one month follow-up with no improvements until after three months of disclosure. These studies demonstrate that the benefits of disclosure writing among certain populations may be delayed. Currently, the mechanisms underlying the delay in benefits of disclosure writing are uncertain. However, degree of exposure to stressful stimuli, emotional processing, cognitive function, unresolved trauma, and affective changes are all possible explanations for differences found in disclosure studies (Gillis et al., 2006). Further assessment of the mechanisms behind disclosure writing may offer an explanation for the delay.

Mechanisms behind Disclosure Writing

Current disclosure research attempts to identify underlying mechanisms that influence changes in psychological and physical well-being (Brown & Heimberg, 2001; Ullrich & Lutgendorf, 2002; Byrne-Davis et al., 2006). There are several processes that could account for differences in outcomes of discloser writing research (Creswell et al., 2007). Disclosure writing may address unresolved issues of trauma through repeated exposure to a stressful event (Byrne-Davis et al., 2006). In a study by Sloan, Marx, and Epstein (2005), undergraduate students exposed to trauma wrote about the same

traumatic experience, a different traumatic experience, or a neutral experience. Those who wrote about the same traumatic experience showed improvements in psychological and physical measures. In this case, repeated exposure to the same traumatic stimuli through expressive writing reduced subjective psychological and physical consequences related to stress (Sloan et al., 2005). It may be difficult to reach a definitive conclusion on repeated exposure models versus emotional expression models since most disclosure studies require participants to focus on both emotional experiences and repeated exposure to those experiences (Lewis, Derlega, & Clarke, 2002; Ullrich & Lutgendorf, 2002; Lumley & Provenzano, 2003; Byrne-Davis et al., 2006). Disclosure writing may influence emotional and cognitive processing by allowing individuals to release negative emotions through writing (Ullrich & Lutgendorf, 2002).

The amount of time it takes for an individual to process negative emotions may affect the time it takes for benefits of negative expression to occur (Ulrich & Lutgendorf, 2002). Research on disclosure writing has also focused on cognitive and affective factors that may influence the outcome of disclosure studies (Brown & Heimberg, 2001; Byrne-Davis et al., 2006; Creswell et al., 2007). Brown and Heimberg (2001) assessed the effects of type of disclosure (private or shared) and type of processing (cognitive or cognitive-affective) among 85 undergraduate females who were all sexual assault victims. In this study, cognitive processing involved thinking about the facts pertaining to the traumatic event. Affective processing involved thinking about the emotions pertaining to the traumatic event. Participants were assigned to one of four groups: private disclosure with cognitive processing, private disclosure with cognitive and affective processing, shared disclosure with cognitive processing, and shared disclosure

with cognitive and affective processing. Those assigned to the private disclosure groups were informed that their writing would not be read by another individual. Those in the shared writing groups were informed that they would be writing to another individual who would later read their writing. Participants who wrote about the experience of rape showed decreases in measures of negative mood and anxiety. There were no differences in psychological improvements among types of disclosure or types of processing (Brown & Heimberg, 2001). However, there are studies that offer evidence to the contrary (Ulrich and Lutgendorf, 2002; Byrne-Davis et al., 2006; Creswell et al., 2007; Radcliffe, Lumley, Kendall, Stevenson, & Beltran, 2007).

Shared disclosure and private disclosure have been compared in several studies to assess differences in various health-related outcomes such as levels of depression and stress as well as physical symptoms (Radcliffe et al., 2007). Radcliffe and colleagues (2007) examined differences in shared disclosure and private disclosure compared to control groups assigned to either no writing task or to writing about a neutral time-management topic. Both shared disclosure and private disclosure improved experiences of stress (measured through levels of cognitive intrusion and avoidance) compared to baseline measures and controls. However, only shared disclosure was related to improvements in measures of interpersonal sensitivity, depression, and physical symptoms. Taken together, both shared disclosure and private disclosure benefit psychological functioning in different ways. Both private and shared disclosure may desensitize participants to stressors through repeated emotional exposure. Shared disclosure may offer other unexplained mechanisms that incorporate interpersonal or

social elements that affect the outcome of physical and emotional measures (Radcliffe et al., 2007).

Studies have shown that neither emotional expression (Byrne-Davis et al., 2006) nor cognitive processing (Creswell et al., 2007) alone leads to health benefits. It is theorized that focusing only on cognitive processing leads to rumination of traumatic events with no resolution of stress and no substantial cognitive changes (Creswell et al., 2007). In a study conducted by Ulrich and Lutgendorf (2002), participants who focused on both cognitive and emotional factors while writing showed positive improvements from stress and/or trauma. Participants who focused only on cognitive processing did not show improvements in physical illness symptoms (Ulrich & Lutgendorf, 2002). Those who focused on only emotional factors reported an increase in physical illness symptoms (Ullrich & Lutgendorf, 2002). Another cause for different outcomes in disclosure research could be related to how an individual interprets the meaning of his or her stressful experience (Creswell et al., 2007). Previous research demonstrates that fibromyalgia patients who wrote about their feelings regarding their experiences demonstrated decreases in reports of pain and exhaustion.

Similarly, those who wrote about the benefits of having breast cancer (e.g., gaining inner strength) had fewer hospital visits and physical symptoms than comparison groups. Discovering meaning and maintaining a positive view about oneself through self-affirmation can buffer the harmful effects of stress and trauma. Discovery of meaning of a distressing experience may work to reconcile the trauma. Self-affirmation involves having a positive personal view such as having high self-esteem or having an optimistic outlook on life. Creswell and colleagues' (2007) assessment of breast cancer survivors

demonstrated that those who utilized self-affirmation during expressive writing reported fewer negative physical symptoms than those who only utilized cognitive processing or discovery of meaning. The findings from this study demonstrate the strength of positive affect even though it takes place within the context of negative expression.

Taken together, expressing negative emotions through writing can lead to improvements in health and well-being. However, the underlying mechanisms behind disclosure writing are unclear. A look into the benefits of positive expression may illuminate other mechanisms that are overlooked throughout the process of disclosure writing. Writing about positive events may prove to be beneficial among various populations including those who experience work-related stress. Studies that emphasize the use of positive affect warrant further attention since its benefits may be applicable to job stress research.

Positive Affect

The majority of research on emotions has focused on expressing negative feelings (Fredrickson, 1998). Research may gravitate toward negative emotions because negative emotions tend to be the source of several problems including aggression, violence, depression, and anxiety disorders (Fredrickson, 1998). Although research demonstrates the benefits of writing about negative emotions (Pennebaker, 1997), positive emotions may offer a solution to the problems generated by negative emotions (Fredrickson, 1998). It is vital that the benefits of positive emotions are not overlooked since both positive and negative emotions can affect how people handle everyday challenges and stressors (Collins, 2007). Finding an effective way of coping with stress requires researchers to consider the effects of positive emotions on individual well-being (Collins, 2007).

The most distinguishable positive emotions are joy, contentment, interest, and love (Fredrickson, 1998). Joy usually represents feelings of immense happiness and pleasure over a particular event or phenomenon. Even after the joyful event has ended, the effects of experiencing joy can still be drawn upon to build emotional, physical, and psychological strengths. Contentment offers lower levels of positive arousal through feelings of safety and comfort. Feeling safe and comfortable allows opportunities to integrate new experiences into one's sense of well-being. Interest bares similarity to feelings of intrigue or excitement. Interest can positively impact well-being by building intrinsic motivation through opportunities for new possibilities and positive change. Love typically represents feelings of joy, contentment, and interest along with other positive emotions that are shared with others. The intrinsic satisfaction that is often a result of experiencing love can help build social bonds and sources of support. Taken together, positive emotions can broaden how an individual thinks and responds in various situations (Fredrickson, 1998). Current research on positive affect (Fredrickson, 1998; Isen, 2001; Isen & Reeve, 2005; Ong & Edwards, 2008) tends to support the Broaden-and-Build Model and the Expectancy-Value Model as explained by Hart, Vella, and Mohr (2008).

Broaden-and-Build Model

The Broaden-and-Build Model asserts that remaining positive during difficult experiences will foster resiliency by broadening cognitive growth (Hart et al., 2008). Higher levels of cognitive functioning may increase benefit-finding and reduce depression. Benefit-finding generally refers to the ability to recognize positive changes that occur in the face of negative life-events. Similarly, the Expectancy-Value Model

asserts that optimism is the primary cognitive mechanism that influences goal-oriented behavior. Optimism is basically an assumption that the future holds more good than bad. Maintaining an optimistic approach may determine whether or not individuals can achieve their goals in the presence of severe hardship (Hart et al., 2008). Cognitive changes brought on by positive affect allow individuals to build and expand their personal resources that help them cope with everyday challenges (Fredrickson, 1998). Fredrickson (1998) offers a review of several studies that demonstrate how positive emotions can broaden the scope of one's attention, action, and cognition.

Broadening Attention

Participants were asked to indicate which of two items was more similar to the first item (Fredrickson, 1998). One item resembled the first item on a global scale while the other item had more local, smaller similarities to the first item. Those who scored higher on positive measures such as optimism and well-being were more likely to choose the globally similar item, indicating a broader focus. The opposite was true for those who scored higher on negative measures such as anxiety and depression. Focusing on localized similarities reflected a narrower and a more inflexible way of thinking. In a similar task, success (positive) feedback was related to global bias while failure (negative) feedback was related to local bias (Fredrickson, 1998).

Isen and Reeve (2005) demonstrate that positive affect can influence attention through intrinsic motivation during enjoyable tasks. Intrinsic motivation is engaging in an activity simply for the enjoyment of that activity. Participants in the study were assigned to an intrinsically motivating, interesting task (3-D puzzle) and an extrinsically motivating, uninteresting task (alphabetizing groups of letters) to assess differences

among those in the positively influenced group and those in the control groups. Those who experienced positive feelings reported greater enjoyment from the intrinsically motivating task than those in the control groups. In addition, those who were positively motivated also spent an equal amount of time on the uninteresting task as they did on the interesting task. Taken together, the study demonstrates that positive emotions not only enhance creativity and enjoyment of interesting tasks, they also promote responsibility and focus for mundane tasks (Isen & Reeve, 2005). In this case, altered attention and cognitive functioning resulted in changes in action among participants.

Broadening Action

Studies show that positive affect leads to broader thinking and in turn, a broader scope of action (Fredrickson, 1998). Those influenced by positive affect were more likely to choose the creative action to solve given problems. In one task, participants were given matches, a candle, and a box of tacks and were asked to light the candle and not allow any wax to drip on the floor. Those influenced by positive affect were more likely to correctly solve the problem by emptying the box of tacks and using it as a candle-holder (Fredrickson, 1998).

Isen (2001) sites studies that have been done over the past few decades that further demonstrate the benefits of positive affect on action. A number of studies have shown that positive feelings encourage altruistic behavior such as donating to charity or assisting someone in need (Isen, 2001).

In a meta-analysis of 57 studies assessing the role of negative and positive affect on job performance, Kaplan, Bradley, and Luchman (2009) found that negative affect was related to poor task performance and lack of "organizational citizenship behavior"

(OCB; p. 163). Elements of OCB include helping a co-worker or performing work beyond one's required duties. In addition, negative affect was related to increases in "counterproductive work behaviors" (CWB) such as harassing a co-work or behaving violently (p. 163). On the contrary, positive affect was related to increases in OCB and task performance and decreases in CWB (Kaplan et al., 2009).

Broadening Cognition

The benefits of positive affect can be particularly useful among those within the service industry since their role directly affects customer satisfaction (Isen, 2001). For example, medical practitioners were asked to diagnose a mock case by identifying the patient's medical history and corresponding symptoms. Those who were influenced by positive factors (e.g., candy) were more likely to utilize varying cognitive approaches which helped them identify a possible diagnosis sooner than those who were not influenced by positive factors. In another study, medical interns were asked to identify which hypothetical patient out of six was likely to have lung cancer. Those influenced by positive feelings (e.g., success on an anagram test) were more likely to perform beyond the assigned task and do more than required. In addition, positively influenced interns utilized information more efficiently and demonstrated less confusion in their decision-making (Isen, 2001).

Positive affect has been shown to increase creative thinking during various creativity tasks (Fredrickson, 1998). Those who experienced positive affect performed significantly better on work association tests in several studies. Consistent with the Broaden-and-Build Model, positive affect indicated that individuals were able to integrate and process information in a more flexible manner (Fredrickson, 1998).

Ong and Edwards (2008) conducted a study to determine the relationship among experiences of racism, depression, and positive affect. Participants who experienced higher levels of racial discrimination also reported higher levels of depression. Interestingly, positive affect moderated the effects of racial discrimination. Therefore, higher levels of positive affect were related to decreases in perceived racism. In turn, decreases in perceived racism were related to lower levels of depression (Ong & Edwards, 2008). In this case, positive affect worked to broaden cognitive processes which led to improvements in health. Positive affect has been linked to several instances of improved health (Vickers & Vogeltanz, 2000; Burton & King, 2003; Zautra, Johnson, & Davis, 2005; Hart et al., 2008; Ironson & Hayward, 2008; Steptoe, O'Donnell, Marmot, & Wardle, 2008) or improved physiological functioning (Fredrickson, Mancuso, Branigan, & Tugade, 2000; Lai et al., 2005).

Health Effects of Positive Emotions

Hart and colleagues (2008) hypothesize that the Broaden-and-Build Model and the Expectancy-Value Model can help to explain the mechanisms behind the positive effects of benefit-finding among multiple sclerosis (MS) patients with depression. Participants in benefit-finding research are often patients suffering from MS, a neurological disease that impairs physical and cognitive functioning. Due to the degenerative nature of the disease, patients with MS often suffer from depression. Depression treatment of individuals with MS has shown that as depression levels decrease, reports of benefit-finding increase. Both the Broaden-and-Build Model and the Expectancy-Value Model supported Hart and colleagues' (2008) hypothesis that higher levels of positive affect and optimism lead to increases in benefit-finding. A study by

Steptoe and colleagues (2008) also supports the notion that positive affect is related to lower levels of depression and higher levels of optimism. In addition, positive affect was related to adaptive coping methods and stronger social ties (Steptoe et al., 2008).

Although physiological responses to stress are adaptive in nature, chronic activation of the stress response system can be dangerous (Fredrickson et al., 2000). For example, fear initiates the response to flee thereby eliciting physiological responses such as increased heart rate and redistribution of blood flow to skeletal muscles. Unfortunately, chronic exposure to negative reactivity can lead to cardiovascular diseases along with other health problems (Fredrickson et al., 2000). Successful relaxation techniques often draw on positive affect by requiring patients to think of positive images (Fredrickson, 1998). In addition, positive affect has been associated with improved immune system functioning (Fredrickson, 1998) and cardiovascular reactivity (Fredrickson et al., 2000).

Fredrickson and colleagues (2000) demonstrate how positive emotions may undo the physical effects of negative emotional arousal within a clinical setting. Undergraduate students subjected to anxiety-related cardiovascular reactivity were assigned to view positive, neutral, or negative films to assess changes in cardiovascular response. Those who viewed positive stimuli experienced decreases in cardiovascular reactivity faster than those who viewed neutral or negative stimuli. The findings of the study support the idea that positive emotions may reverse the physiological effects of negative reactivity. While negative emotions such as fear and anxiety prepare the body to take action by increasing cardiovascular activity (among other physiological responses), positive emotions work to undo those responses by speeding up

cardiovascular recovery. This "undoing" effect may explain why participants exposed to positive conditions demonstrated returns to normal cardiovascular reactivity more quickly than those exposed to negative or neutral conditions (Fredrickson et al., 2000, p. 240).

The effects of positive affect on physiological reactivity can be measured through cardiovascular response (Fredrickson et al., 2000) as well as through salivary cortisol (Lai et al., 2005). Lai and colleagues (2005) demonstrate that positive affect is associated with lower levels of cortisol. Because cortisol is released during stress, the results indicate that positive affect works to reduce the impact stress has on the body (Lai et al., 2005).

In a meta-analysis of literature concerning psychosocial factors and HIV, Ironson and Hayward (2008) listed several studies that demonstrate the beneficial effects of optimism and positive affect. In a longitudinal study of 733 women who had HIV, factors such as positive affect and optimism were negatively related to weakened immune system and death. Similarly, a study of 412 men and women with HIV showed that optimism was related to higher immune system functioning (as indicated by CD4$^+$ cell count) compared to those with less optimism. In another study, those low in optimism lost CD4$^+$ cells over one and a half times faster than those who demonstrated higher levels of optimism. The meta-analysis reveals that positive emotions may affect biological mechanisms that influence the health outcomes of patients with HIV. For example, lower levels of cortisol have been related to longevity in patients with HIV. In turn, positive affect may help to lower cortisol levels. In addition, lower levels of the stress hormone norepinephrine (NE) have been related to improved treatment outcomes.

Norepinephrine is released during arousal of the sympathetic nervous system in response to stress. Positive affect reduces sympathetic reactivity, thereby reducing levels of NE (Ironson & Hayward, 2008). Although the full extent of biological benefits of positive affect is unknown, its implications in HIV research can be applied to other populations suffering from physical illness.

Helgeson and Fritz (1999) demonstrated the benefits of positive affect among patients who underwent percutaneous transluminal coronary angioplasty (PTCA). PTCA (more commonly known as angioplasty) is an alternative to coronary bypass surgery that works to reduce arterial blockage. Approximately one third of the patients treated with PTCA experience a reoccurrence of arterial blockage within six months. However, patients who demonstrated positive affect were less likely to experience a reoccurrence of coronary blockage. The results of the study support the premise of cognitive adaptation theory that adopting a more positive and/or optimistic outlook can influence the outcome of disease progression by helping individuals gain control and self-esteem (Helgeson & Fritz, 1999).

Zautra and colleagues (2005) assessed the relationship between positive affect and health status among patients with fibromyalgia or osteoarthritis. Higher levels of positive affect were associated with lower levels of pain and negative affect. In addition, higher levels of negative affect were related to increased levels of pain. Taken together, positive affect can work directly to decrease pain perception or indirectly by reducing negative affect which then decreases pain perception (Zautra et al., 2005).

In a study of 190 undergraduate students, Vickers and Vogeltanz (2000) found that as optimism increases, depression decreases. Interestingly, depression levels were

the same among those who reported having high levels of positive affect and those who reported having low levels of positive affect. However, as the amount of daily stressors increased, depression among those with low levels of positive affect drastically increased compared to those with high levels of positive affect (Vickers & Vogeltanz, 2000).

Burton and King (2003) assessed the effects of writing about positive experiences on health measures among undergraduate students. Of the 90 participants, 48 were assigned to write about an intensely positive experience while 42 were assigned to write about a control topic. Those in the positive writing group were instructed to write about the happiest moment in their life while those in the control group were instructed to write about a time management task. Three months after the writing task, health center visits were measured to determine illness outcomes. Those in the positive writing group had significantly fewer visits to the health center compared to the control group (Burton & King, 2003).

Maintaining an overall positive outlook may also help to promote longevity (Danner, Snowden, & Friesen, 2001). Danner and colleagues (2001) assessed 180 autobiographies written around 1930 by nuns between the ages of 18 and 32. Before they took their final vows the nuns were instructed to write a one page autobiography that included their place of birth, parents, special childhood events, and religious influences. Even though the events described were uniform among each nun, the style of writing differed greatly among them. Each autobiography was coded for use of negative, positive, and neutral emotional experiences. Interestingly, autobiographies with positive connotations were indicative of longevity over 60 years later (Danner et al., 2001).

In sum, the benefits of positive affect have been demonstrated throughout several studies. These benefits span several processes such as attention, action, and cognition. In addition, positive affect can lead to better health outcomes among those with physical illnesses and psychological disturbances. Interestingly, maintaining a positive state of mind can even affect longevity. These benefits need to be applied to future studies in health psychology.

Hypothesis

All things taken together, emotional expression and positive affect have beneficial effects on physical health and psychological well-being that can be applied to job stress research. Much of the current research on writing typically involves writing about traumatic or negative experiences (Lumley & Provenzano 2003; Alford et al., 2005; Radcliffe et al., 2007). Even with the success of negative emotional expression, we still do not fully understand the underlying mechanisms involved in disclosure research. Research by Creswell and colleagues (2007) indicates that positive affect may influence outcomes of disclosure research. Further investigation of positive affect, particularly written positive expression, may answer questions surrounding disclosure research. In addition, since positive affect can lead to health benefits that include reduced stress levels (Nelson, Quick, Simmon, 2001), writing about positive topics may prove to be a beneficial approach to reducing work-related stress.

Along with possible health benefits, positive writing paradigms are relatively easy and inexpensive to implement. Since companies and organizations face significant profit loss due to employee turnover, stress-related loss of productivity, and stress-management

interventions (Kelloway & Day, 2005), it is important to use inexpensive and convenient approaches to stress management.

The current research examined reported job-related stress among restaurant employees and the effects of positive writing on perceived stress and job performance. First, it is predicted that positive writing will lead to decreases in reported levels of job-related stress compared to the control group. Second, it is predicted that positive writing will also lead to increases in objective measures of job performance compared to the control group.

CHAPTER II

METHOD

Participants

Participants for the current study were recruited from a restaurant in Austin, Texas. Approximately 35 potential participants were informed about an opportunity to be a part of a study involving writing and work stress. As an incentive, they were informed they would be entered in a drawing for a chance to win one of six $25 gift cards upon completion of the study. Of the 35 potential participants, 25 completed the study. Participants age ranged from 19 to 39 with an average age of 26 ($SD = 5.4$). There were 16 males and 9 females. All participants directly interacted with customers as part of their line of work. Participants were randomly assigned to an experimental group and a control group. The experimental group was assigned to write about a positive topic while the control group was assigned to write about a neutral topic. After recruitment, demographic information such as age and sex was obtained upon initial assessment. Participants were asked to take a questionnaire that measured perceived work stress. Perceived work stress was recorded using the Work Stress Inventory (WSI).

Material and Apparatus

Work Stress Inventory (WSI)

The WSI is a 40-item test developed by Barone, Caddy, Katell, Roselione, and Hamilton (1988) that measures perceived work stress. The intensity and the frequency of perceived work stress are assessed on a Likert-type scale. Types of stressors measured by the WSI are broken up into two groups: organizational risk and organizational stress.

Organizational risk items assess both the intensity and the frequency of work-related hazards or risks. Questions pertaining to organizational risk factors include the following:

Having to respond on an emergency basis.

Being injured as a result of the mistakes of others.

Knowing that your error may harm another person.

Organizational stress items assess both the intensity and the frequency of stress pertaining to elements specific to the workplace. Questions pertaining to organizational stressors include the following:

Not knowing what superiors expect of you.

Disagreeing with superiors.

Working under inconsistent policies and guidelines.

Job Performance Measures

Job performance was tracked through the Positouch system. When a server enters an order, the sale is automatically tracked through the Positouch system. Individual reports of sales are broken down into six categories: appetizers, alcohol, sides, desserts, premium steaks, and seasonal specials. At the time of the study, there were no seasonal

specials offered so these are not part of the data. The average dollar amount of the remaining five categories was used to indicate job performance.

Writing Materials

Participants were provided with writing materials which consisted of bound notebook paper and a pen.

Procedure

The initial instructions were given individually as participants were informed of the study. The participants were met at their place of employment for instructions and baseline assessment using the WSI. Stress assessment was taken a second time one week later upon completion of the study. Participants were informed that the experiment was to assess the effects of writing on measures of work-related stress. Participants were not informed of any intention of measuring job performance in order to avoid potential bias. Participants were assigned a number and informed that their identity would remain confidential. They were also informed that they should not discuss their participation in the study with other participants. Each participant signed a consent form that explained their role in the experiment. The consent form made it clear that they could withdraw from the study at any time.

After participants completed the necessary forms and assessment, they were randomly assigned to either the experimental group (Positive Writing Group) or the control group (Neutral Writing Group). The instructions for the writing task, adapted from Pennebaker's (1997) writing paradigm, were given to each participant and read aloud.

Instructions for Positive Writing Group

The writing exercise you will do over the next week is part of research conducted on stress management. Writing about positive events may help to reduce perceived and/or actual stress. During the following week you will be asked to arrive to work 20 to 30 minutes early. You will be asked to write about the most positive experience you can remember. Describe what occurred and explain in detail your deepest thoughts and feelings about the experience. You can write about anything you want, just be sure that the experience you choose is something that has had a deep, positive emotional impact. Please write for only about 10 to 20 minutes before each shift. You can write about a different positive experience each day or you can continue to write about the same experience. When you write, do not worry about spelling, grammar, or sentence structure— these will not be important. Your writing will remain completely confidential. Writing will begin on the first day you are scheduled to work next week and will be completed after your work week is over. You will be asked to write everyday you are scheduled for that week. At the end of the week you will be asked to take a final questionnaire at which time you will receive a ticket that will qualify you to win 1 of 6 $25 gift cards.

Instructions for Neutral Writing Group

The writing exercise you will do over the next week is part of research conducted on stress management. Organized thinking may help to reduce perceived and/or actual stress. During the following week, you will be asked to describe an object or room with as much detail as possible. Before writing, image the object as

vividly as possible. I ask that you write as much information as possible within 20 to 30 minutes each day. Try to avoid writing about your concerns, feelings, worries or problems. Do your best to remain as objective as possible when describing the object. When you write, do not worry about spelling, grammar, or sentence structure—these will not be important. Your writing will remain completely confidential. Writing will begin on the first day you are scheduled to work next week and will be completed after your work week is over. You will be asked to write everyday you are scheduled for that week. At the end of the week you will be asked to take a final questionnaire at which time you will receive a ticket that will qualify you to win 1 of 6 $25 gift cards.

Participants wrote an average of three days depending on how many times they were scheduled to work during the week the study was conducted. Participants worked no less than three days and no more than five days during the week of the study. Since participants wrote at the beginning of their designated shifts, writing times varied by approximately two hours. The earliest writing time was approximately 3:30 p.m. while the latest writing time was approximately 5:30 p.m. Over half the participants wrote between 4:00 p.m. and 5:00 p.m. on any given day.

Sales data for the week prior to the study and for the week of the study were collected to assess changes in job performance.

Analytic Strategy

Both pre-test and post-test scores for the WSI were compared to assess changes from the first week to the second week. Differences between baseline and follow-up scores for the WSI and job performance were analyzed separately using a repeated-

measures analysis of variance (ANOVA) with the writing condition (positive vs. neutral) as the between-subjects variable and the time of measurement (baseline vs. follow-up) as the repeated-measures variable.

CHAPTER III

RESULTS

The first goal of the study was to assess if differences in writing conditions affected job stress levels as measured by the WSI. Differences were assessed for total scores and subscores of organizational risk and organizational stress. Intensity and frequency were used as subscores for organizational risk and organizational stress. The results of the 2 x 2 ANOVA revealed no significant difference in the main effect of writing conditions on total organizational risk, $F(1, 23) = .007, p > .05$. There was no significant interaction among writing conditions and pre-test vs. post-test measures of total organizational risk, $F(1, 23) = .112, p > .05$. However, there was a significant main effect for pre-test vs. post-test measures for total organizational risk, $F(1, 23) = 7.003, p < .05, \eta^2 = .233, M = 43.56, SD = 25.11$ and $M = 36.20, SD = 22.98$, respectively. Assessment of possible variation in subscales of organizational risk showed no significant main effect for writing conditions on intensity of organizational risk, $F(1, 23) = .082, p > .05$. There was also no significant main effect of pre-test vs. post-test for intensity of organizational risk, $F(1, 23) = .480, p > .05$. In addition, there was no significant interaction among writing conditions and pre-test vs. post-test measures of intensity of organizational risk, $F(1, 23) = .024, p > .05$. Assessment of frequency of organizational risk showed no significant main effect for writing conditions, $F(1, 23) =$

.758, $p > .05$, and no significant main effect of pre-test vs. post-test, $F(1, 23) = .800, p > .05$. In addition, there was no significant interaction among writing conditions and pre-test vs. post-test measures of frequency of organizational risk, $F(1, 23) = .066, p > .05$.

ANOVA results also revealed no significant difference in the main effect of writing conditions on total organizational stress $F(1, 23) = .007, p > .05$. There was no significant interaction among writing conditions and pre-test vs. post-test measures of total organizational stress $F(1, 23) = .006, p > .05$. There was a significant main effect of pre-test vs. post-test for total organizational stress $F(1, 23) = 4.77, p < .05, \eta_p^2 = .172, M = 76.40, SD = 40.20$ and $M = 63.84, SD = 40.01$, respectively. Separate assessment of WSI subscales revealed no significant main effect for writing conditions on intensity of organizational stress $F(1, 23) = .327, p > .05$. There was a significant difference for main effect of pre-test vs. post-test measures of intensity of organizational stress $F(1, 23) = 16.50, p < .001, \eta_p^2 = .418, M = 37.52, SD = 14.36$ and $M = 32.40, SD = 13.20$, respectively. There was no significant interaction among writing conditions and pre-test vs. post-test measures of intensity of organizational stress, $F(1, 23) = .001, p > .05$. Assessment of frequency of organizational stress revealed no significant main effect for writing conditions, $F(1, 23) = .098, p > .05$. There was a significant main effect of pre-test vs. post-test for frequency of organizational stress, $F(1, 23) = 16.91, p < .001, \eta_p^2 = .424, M = 20.44, SD = 10.16$ and $M = 30.32, SD = 12.87$, respectively. There was no significant interaction among writing conditions and pre-test vs. post-test measures of frequency of organizational stress, $F(1, 23) = .991, p > .05$.

The second goal of the study was to determine if assignment to different writing conditions would lead to changes in subjective measures of job performance. The

average dollar amount of individual weekly sales was used to indicate job performance.

ANOVA results revealed no significant main effect for writing condition on monetary

sales amount $F(1, 23) = .214, p > .05$. Results also revealed no significant interaction for

writing and pre-test vs. post-test measures of job performance $F(1, 23) = 1.13, p > .05$.

There was a significant main effect of pre-test vs. post-test on monetary sales amount

$F(1, 23) = 4.47, p < .05, \eta_p^2 = .170, M = 17.93, SD = .363$ and $M = 18.73, SD = .356$,

respectively.

Table 1 offers a description of the means for organizational risk, organizational

stress, and job performance. Figure 1 offers a visual comparison of the mean changes of

organizational stress.

Table 1

Mean Scores of Work Stress Inventory and Job Performance

GROUP		ORGANIZATIONAL RISK			ORGANIZATIONAL STRESS			JOB PERF
		T	I	F	T	I	F	$ SALES
POSITVE	PRE	49.25 (25.18)	29.83 (15.20)	22.33 (9.87)	76.83 (35.93)	39.17 (13.39)	22.33 (9.87)	17.59 (1.98)
	POST	40.92 (23.24)	29.25 (14.59)	21.08 (9.99)	64.75 (42.53)	34.00 (12.83)	29.75 (11.83)	18.78 (1.81)
NEUTRAL	PRE	38.31 (24.85)	28.15 (16.87)	18.69 (10.16)	76.00 (45.26)	36.00 (15.58)	18.69 (10.50)	18.26 (1.65)
	POST	31.85 (22.77)	27.23 (18.23)	18.00 (9.69)	63.00 (39.28)	30.92 (13.88)	30.85 (14.22)	18.67 (1.92)

Note. N = 12 for Positive Group. N = 13 for Neutral Group. T = Total. I = Intensity. F = Frequency. $ Sales = Dollar Amount of ales. (SD).
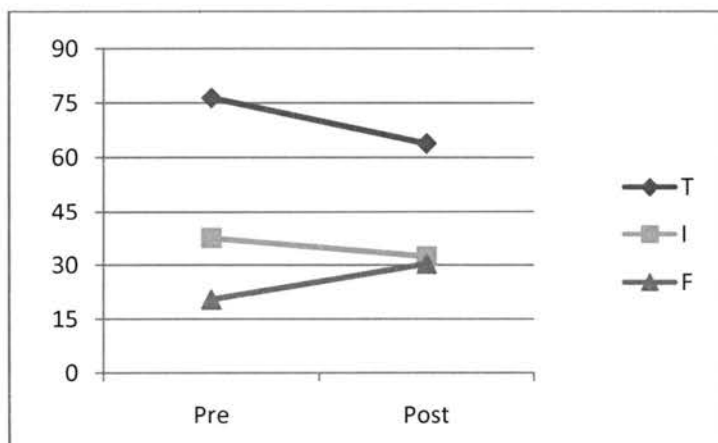
Figure 1   *Organizational Stress Main Effects*

CHAPTER IV

DISCUSSION

The purpose of this study was to determine if positive writing would decrease perceived stress and job performance among those who work in the restaurant industry. Although current research supports the benefits of positive writing (Danner et al., 2001), this study did not support these findings. Taken together, writing about positive topics did not change levels of perceived organizational risks or levels of perceived organizational stress when compared to control groups. In addition, there was no main effect of writing on pre-test vs. post-test measures of organizational risk or organizational stress. Separate assessment of intensity and frequency of perceived organizational risks and perceived organizational stress also did not show any differences between groups. There were no main effects of writing on pre-test and post-test measures of intensity and frequency of organizational risk and organizational stress. In addition, both positive writing and neutral writing did not lead to any changes in job performance.

There are several factors that may contribute to these findings. First of all, the writing paradigm within the study may not have adequately evoked positive feelings. Participants in the positive condition were allowed to write about different extremely positive events or the same event during each session. If participants chose to write about

the same event, repeated exposure to positive stimuli may have reduced the effects of remembering the positive experience. In a study by Gillis and colleagues (2006), writing about negative events led to an immediate increase in negative mood. Negative mood did not decrease until participants were repeatedly exposed to the negative stimuli (Gillis et al., 2006). The same effects may be true for positive mood in that repeated exposure to positive stimuli may eventually cause decreases in the intensity of positive mood. In addition, it is unclear how long positive mood lasts after exposure to positive stimuli. Current research on positive affect tends to focus on the immediate effects of a single exposure to positive stimuli (Fredrickson, 1998; Fredrickson et al., 2000; Isen, 2001; Lai et al., 2005; Ong & Edwards, 2008). Future research should address not only repeated exposure to positive stimuli but also the longevity of benefits related to positive affect. This shortcoming can be addressed by including scales that measure changes in general levels of affect such as the Positive and Negative Affectivity Scale (PANAS; Hart et al., 2008).

A second shortcoming of the study is that participants may not have accurately written about a positive or neutral topic. In order to ensure complete confidentiality, participants' writings were not read. In a study of disclosure writing performed by Brown & Heimberg (2001), there were no differences in psychological improvements between those who disclosed privately and those who disclosed to another individual. A major drawback of this approach is the inability to ensure the appropriate content of writing. Future research may improve on this design by ensuring that writing content is assessed by another researcher who does not come in contact with the participants.

In addition, although participants were informed that they should not discuss the study with other participants, the nature of the study could not ensure that discussion amongst participants did not occur. Because participants were in a natural setting among familiar co-workers, elements of the WSI may have been discussed. In particular, items on the WSI that addressed management issues (i.e. "Disagreeing with superiors.") were more likely to be discussed among participants. Discussion of WSI items may have led participants to select responses that may not have been based solely on their own personal beliefs.

Stress assessment in this study was based on self-report, which may be subject to participant bias. Studies that use self-report measures risk the chance that participants may not give accurate responses. The inability to accurately assess personal stress levels may have contributed to null outcomes in this study. Job performance measures were included in the study to offer an objective measure of beneficial changes in behavior. Unfortunately, monetary sales may not have been a sufficient measure of job performance.

Measures of job performance may not have been adequate based on the nature of the restaurant industry. Average sales were compared from one week to another to assess changes in job performance. However, individual sales can vary significantly based on volume of business. Therefore, any increases in sales may be attributed to seasonal business trends and not to individual performance. One way to avoid this type of error is by comparing sales from the previous year to sales during the current year. However, problems may also arise from this method due to employee turnover. This shortcoming may be addressed by including indicators of job performance. Kaplan and colleagues

(2009) offer four ways of measuring job performance: "in-role performance" (e.g. monetary sales), "organizational citizenship behavior" (e.g. helping out a co-worker), "counterproductive work behaviors" or "workplace deviance" (e.g. harassing a co-worker), and "withdrawal" (e.g. missing work, p. 163). Including all or some of these measures may provide more accurate assessment of job performance.

Although there were several limitations to the current study, it did yield some interesting results. There were significant improvements in total occupational stress levels when considering the main effects of positive and neutral writing. Separate assessment of the intensity of occupational stress showed that stress levels were significantly lower at post-test than at pre-test. Contrarily, the frequency of occupational stress for both writing groups was significantly higher at post-test than at pre-test (see Figure 1). In addition, sales were significantly higher at post-test than at pre-test when comparing both writing groups together.

Taken together, these results lead to a few possible conclusions. First, there were changes in frequency and intensity of occupational stress levels but no changes in frequency and intensity of occupational risk levels when comparing main effects of positive and neutral writing. Occupational risks may be lower for those in the restaurant industry compared to other industries. According to Dempsey and Filiaggi (2006), the restaurant industry has a lower rate of injury and illness than other industries. This may help to explain why there were no changes in occupational risk within intensity and frequency subscales.

Next, another phenomenon independent of positive writing may have influenced participants' answers on the WSI since both the positive writing group and the negative

writing group showed decreases in occupational stress. A reactivity effect may explain why participants in both writing groups showed decreases in measures of overall occupational stress at post-test compared to pre-test. Because participants knew they were being observed, they may have altered their behavior or attitude accordingly. Those in the neutral writing group may have felt that they *should* experience benefits from participation in the study and thereby adjusted their behavior or attitude accordingly.

The results also indicate that the main effect of pre-test and post-test scores for intensity of occupational stress shows a *decrease* from trial one to trial two. However, the main effect shows an *increase* between trials for frequency of occupational stress (see Figure 1). Decreases in occupational stress intensity may be explained by a reactivity effect. The efforts of the study may have caused participants to expect certain changes to occur, thereby affecting their responses concerning the intensity of stress experienced. By requiring participants to think about organizational stressors, the study may have led to participants to consider organizational problems they otherwise would not have noticed. The nature of the questions pertaining to occupational stress involved issues surrounding problems with superiors, lack of clear direction, and disorganization. Additionally, questions concerning superiors were the types of questions that participants were more likely to discuss with each other. Additional attention given to organizational stress may have led participants to report increased frequency of organizational stress during post-test measures. For this reason, workers may benefit from more active approaches to reducing perceived organizational stressors. Application of intentional coping methods such as Abbreviated Progressive Relaxation Training (Eisen et al., 2008)

or control-oriented approaches (Koeske et al., 1995) may help to reduce both intensity and frequency of perceived organizational stress.

A tentative approach should be taken when formulating any conclusions based on the job performance data. With that in mind, the combined scores of both groups showed an overall improvement in sales at the end of the study. This improvement might be related to decreases in the groups' organizational stress intensity. In this case, decreased organizational stress may be related to increased job performance. On the other hand, a reactivity effect may have caused participants to expect changes, thereby altering their performance. As previously mentioned, any changes in job performance may be due to an influx of business and not efforts from the study.

Taken together, the current study contains limitations that need to be addressed. The current study has a relatively small sample size and a lack of comparability among demographics. This study is unable to compare whether variables such as race, sex, or marital status affect measures of stress. Future studies on work-related stress should include these factors to provide further insight into occupational stress. In addition, the small sample size limited the number of possible test groups that could be utilized within the study. For this reason, the study did not have a negative writing group for additional comparison. Research indicates that disclosure writing benefits several populations including healthy individuals (Radcliffe et al., 2007), those suffering from trauma (Sloan & Marx, 2004) or patients with chronic illness (Moor et al., 2002; Gillis et al., 2006; Warner et al., 2006). However, disclosure writing has not been widely used to address work-related stress. Future research should compare the effects of negative expressive writing to the effects of positive and neutral writing. A study utilizing both methods of

emotional expression may add insight into the underlying mechanisms that may influence successful treatment of work-related stress.

In conclusion, the current study may prove to be an important tool for those who are in the restaurant industry. Research involving this sector of the workforce can affect a significant number of people since those employed in the restaurant industry make up a higher percentage of the labor force than any other job sector in the United States (U.S. Bureau of Labor Statistics, 2007). Addressing this population can extend benefits beyond employers and workers to the patrons who visit these establishments. Additionally, methods included in this study are easily replicated and inexpensive to administer allowing them to be applicable to other occupations. Although the current research may have limitations, its implications for future research promises to add insight to job-stress management in an economical, time-effective manner.

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