Laughter as a Priming Agent for Change

Linnea M. Heintz
*University of Arkansas, Fayetteville*

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Laughter as a Priming Agent for Change

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Counselor Education and Supervision

by

Linnea M. Heintz
University of Wisconsin-Stout
Bachelor of Arts in Psychology, 2012
University of Arkansas
Master of Science in Rehabilitation, 2015

May 2021
University of Arkansas

This dissertation is approved for recommendation to the Graduate Council.

Kristin K. Higgins, Ph.D.
Dissertation Director

__________________________________________
David D. Christian, Ph.D.
Committee Member

Michael Miller, Ed.D.
Committee Member

__________________________________________
Penny Willmering, Ph.D.
Committee Member

Sean Mulvenon, Ph.D.
Committee Member
Abstract

The purpose of this study was to analyze the importance of laughter as a factor in influencing employee job satisfaction ratings. The Job Satisfaction Survey (Spector, 1985, 1997) and pulses of laughter were used in this study. To explore the relationship between laughter and job satisfaction, results of the Job Satisfaction Survey (Spector, 1994) were collected quarterly (four times a year) for three consecutive years, beginning six months prior to the start of the two-year study and six months post. The study sample was composed of 545 employees (34% male, 66% female) operating out of 10 employee-owned retail chain locations across Midwestern United States. A quasi-experimental, time-series research model, utilizing a one-way repeated measure multivariate analysis of variance (MANOVA) was used in this study. The MANOVA determined significant differences existed. Further studies should be carried out in different settings to shed light on the versatility of laughter on job satisfaction and laughter pulses as a means of non-participatory intervention.

Keywords: job satisfaction, supraliminal laughter, occupational stress, employee assistance program (EAP), mental health, counseling, priming, non-participatory interventions, counselor education
Acknowledgments

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Dedication

This dissertation is dedicated to my husband, Matthew, who has patiently been waiting for the day he becomes rich, and I become famous. Thank you for continuing to support and keeping it real while making me laugh and lightening the load along the way. Thank you for allowing me to pursue my dreams. To our three wonderful kids, Danica, Michael, and Robin, who put up with the years of stress and separation and provided me with unending inspiration and the motivation to never give up. I love you so much and am truly blessed to have such a loving and supportive family. Finally, Anthony (my ride or die), Bridgette and Little P, and the rest of my Arkansas family. You have been there through thick and thin. Weathered the storms with me through “grouping” and countless setbacks and let us not forget the late-night processing and midnight snacks. Thank you with all my heart.
# Table of Contents

Chapter 1: Introduction ....................................................................................................... 1

Statement of the Problem ............................................................................................... 2

Purpose of the Study ....................................................................................................... 4

Research Question ......................................................................................................... 5

Hypothesis .................................................................................................................... 5

Null Hypothesis ............................................................................................................. 5

Assumptions, Limitations and Delimitations ................................................................. 6

Assumptions ................................................................................................................ 6

Limitations ................................................................................................................... 6

Delimitations ............................................................................................................... 7

Significance of the study ............................................................................................... 7

Definition of Terms ....................................................................................................... 8

Employee Assistance Program .................................................................................... 8

Extant Data .................................................................................................................. 8

Job Satisfaction ............................................................................................................. 8

Priming Effects ............................................................................................................. 9

Pulses of Laughter ....................................................................................................... 9

Social Priming ............................................................................................................. 9

Subliminal .................................................................................................................... 9
Laughter and Maslow .................................................................................................... 45

Summary ....................................................................................................................... 45

Chapter 3: Research and Methodology ............................................................................. 46

Previous Research ......................................................................................................... 46

Participants .................................................................................................................... 46

Extant Data .................................................................................................................... 47

Research Design ............................................................................................................ 48

Instruments .................................................................................................................... 48

Sound System ............................................................................................................. 48

Pulses of Laughter ..................................................................................................... 49

Job Satisfaction Survey (JSS) .................................................................................... 49

Validity and Reliability ................................................................................................. 50

Variable list ................................................................................................................... 50

Independent Variable ................................................................................................. 50

Dependent Variable ................................................................................................... 50

Procedures ..................................................................................................................... 51

Data Collection: ............................................................................................................. 52

Research Question ......................................................................................................... 53

Hypothesis ..................................................................................................................... 53

Null Hypothesis ............................................................................................................. 53
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preliminary Analysis</td>
<td>53</td>
</tr>
<tr>
<td>Reliability</td>
<td>54</td>
</tr>
<tr>
<td>Descriptive Statistics</td>
<td>54</td>
</tr>
<tr>
<td>Summary</td>
<td>57</td>
</tr>
<tr>
<td>CHAPTER 4: RESULTS</td>
<td>58</td>
</tr>
<tr>
<td>Statistical Analysis</td>
<td>58</td>
</tr>
<tr>
<td>Chapter 5: Discussion</td>
<td>64</td>
</tr>
<tr>
<td>Research Question</td>
<td>66</td>
</tr>
<tr>
<td>Major findings</td>
<td>66</td>
</tr>
<tr>
<td>Limitations</td>
<td>68</td>
</tr>
<tr>
<td>Recommendations</td>
<td>69</td>
</tr>
<tr>
<td>Implications</td>
<td>70</td>
</tr>
<tr>
<td>Counseling Education</td>
<td>70</td>
</tr>
<tr>
<td>Mental Health Practitioner</td>
<td>71</td>
</tr>
<tr>
<td>Human Resource Management</td>
<td>72</td>
</tr>
<tr>
<td>School-Based Mental Health Counselors</td>
<td>73</td>
</tr>
<tr>
<td>Employee Assistance Programs (EAP)</td>
<td>74</td>
</tr>
<tr>
<td>Conclusion</td>
<td>75</td>
</tr>
<tr>
<td>References</td>
<td>77</td>
</tr>
<tr>
<td>Appendix</td>
<td>102</td>
</tr>
</tbody>
</table>
Appendix A: Office of Research Compliance Institutional Review Board ......................... 102

Appendix B: Demographics ........................................................................................................... 103

Appendix C: Spector Conditions for use of Assessment ............................................................. 104

Appendix D: Job Satisfaction Survey (Spector, 1994) ................................................................. 105

Appendix D (Cont.) .......................................................................................................................... 106

Appendix E: Mean and Standard Deviation for 3 years ............................................................... 107
Chapter 1: Introduction

Job Satisfaction, is a term referring to an emotional state and attitude based on the self-perceived appraisal of one’s job, working environment and culture. Employee job satisfaction directly influences mental, physical, emotional, and behavioral aspects of both work and life domains (Rajgopal, 2010). Components that effect job satisfaction include culture, work distribution, policies, employee involvement, physical and psychosocial work environment, workplace cohesion, and the work itself (Sell & Cleal, 2011). Scholars have determined there to be a link between occupational stress and job satisfaction with employee wellbeing and organizational culture being the key component to business strategy (Belias & Koustelios, 2014). Low job satisfaction is a contributor to significant economic burden, a decrease in well-being, and elevated levels of depression and anxiety (Faragher et al., 2005). Whereas higher levels of job satisfaction have been linked to positive effects on overall well-being (Maxwell, 2015). Employee Assistance Programs (EAP) are on the rise (Dimoff & Kelloway, 2019). Employee Assistance Programs are designed to assist employees with personal and/or job-related problems that could have a negative impact on their mental, physical, and emotional well-being (Sonnenstuhl & Trice, 2018). With the focus of employee assistance programs being the wellbeing of employees, providing formal interventions such as wellness programs are beneficial and serve as mechanisms to increase the chances for improved wellbeing (Roman & Blum, 1988). Wellness programs are voluntary, and a “Wellness Checkup” study conducted by UnitedHealthcare (2017) discovered that despite 70% of companies offering workplace wellness programs, most employees do not want to put in the time to do so. The pressures and deadlines of work outweighs the rewards and incentives of the wellness programs (Lonhart, 2020). According to Maslow (1943), individuals are motivated only to fulfill the needs on the lower
tiers of the hierarchy of needs pyramid if they remain unsatisfied. It is necessary to fulfil the needs on the lower tiers before they can start concerning themselves with higher-level needs. Job satisfaction is addressed in the lower three tiers, whereas participation in interventions/workplace wellness programs and the motivation to change, falls in the two higher levels on the pyramid (James, 2019).

According to Neilsen and Randall (2012), participation in workplace interventions is a major challenge. Individuals who would benefit the most from these interventions, seek them the least, with the greatest impediment to employee well-being, being perceived stress (American Psychological Association, 2012b). Laughter interventions are a low-cost method proven to decrease stress, anxiety, depression, and promote psychological well-being (Hatzipapas et al., 2017). Laughter yoga, workplace laughter groups, and laughter qigong are forms of therapeutic interventions classified within complementary therapies in medicine that encourage personal wellbeing. Laughter improves well-being and workplace morale (Eller, 2014). Positive workplace morale has the potential to have a substantial impact on an employee’s job satisfaction, productivity and turnover rate (Chang et al., 2019). Providing a happy, healthy working environment with the promotion of laughter and levity will prompt positive attitudes and healthier outcomes on and off the clock (Patel & Desai, 2013). Haverman et al (2018), reported a need for work stress prevention measures designed to influence with minimal, if any, participation. Based on this literature, the purpose of this study was to examine the relationship between laughter and employee job satisfaction.

**Statement of the Problem**

The World Health Organization (2019) reported job stress to have reached epidemic levels. According to the Centers for Disease Control and Prevention (2014), stressful
psychosocial working environments, ill matched abilities to work pressures and demands, little morale, and low job satisfaction are linked to impaired health and the development of chronic diseases. Today’s employee is working longer, harder hours and relying on unhealthy coping mechanisms for managing stressors, turning to substances such as alcohol, sleeping pills, and anti-anxiety medications, with 34% reporting their reliance on caffeine had increased and 9% reporting increased sugar consumption (Bridge by Instructure, 2017). Excessive job stress causes harmful health effects resulting in an increase in the development of chronic diseases such as: A reduction in immune system functioning (Dhabhar, 2014); increased depression and inflammation (Miller & Hen, 2015; Slavich, 2014); the onset of Post-traumatic stress disorder (Arnsten et al., 2015); and damage to circuitry and structures within the brain (McEwen & Morrison, 2013). According to the Occupational Health and Safety Administration (OSHA, 2019) nearly 2 million Americans are affected by workplace violence, annually. Elevated stress tends to lower employee morale, which in turn increases the likelihood of low job satisfaction, with all three of these factors serving as antecedents to workplace violence (Saleem et al., 2020). Foy et al. (2019) suggest the development of interventions to reduce workplace stress and increase performance. The implementation of policies and positive changes to the working environment can improve organizational culture and reduce stress and the likelihood of workplace violence taking place (Miller et al., 2020).

Employee assistance programs are intended to identify and address personal concerns of the employee through the implementation of innovative strategies, policies, and practices aimed at reducing stress and improving overall health and wellbeing (United States Department of Labor, 2009). Mattke et al. (2015), reported a mere two-fifths of employees participate in workplace intervention/wellness programs offered through employee assistance programs for
which they were eligible. Program participation remains limited, with “participation rates between 20 to 40 percent in any given year” (p. 6). Researchers have investigated the link between physical and mental well-being and job satisfaction levels, finding job satisfaction to be an important factor in the health of employees (Faragher et al., 2005). According to Maslow (1971), human behavior is driven by motivators that fulfill a need starting with the basics of physiological and safety. Progress to the next level occurs when the needs of the current level are met (Morsella et al., 2009). If an individual is struggling to meet physiological and safety needs on the lower tiers of Maslow’s pyramid, they are forced to prioritize their needs, forgoing the opportunity to participate in wellness programs due to work pressures and deadlines (More & Padmanabhan, 2017). Employee assistance programs, job satisfaction, and job stress interventions, such as laughter therapy, have been widely studied. These studies opened a door to explore different interventions and environments focusing on the reduction of job stress, increase employee morale (Hammer et al., 2019; Huby et al., 2002; Nocon et al., 2019) and increase job satisfaction (Bradley & Cartwright, 2002; Parks & Steelman, 2008; Richardson & Rothstein, 2008; Steel et al., 2018).

However, there is a gap in the research. The existence of a problem or gap in knowledge as it applies to the alteration of the working environment to reduce stress levels and to increase participation rates. The current study aimed in addressing the gap by investigating whether there is a relationship between pulses of laughter heard throughout the normal working day and increased job satisfaction.

**Purpose of the Study**

The purpose of this quantitative, quasi-experimental, time-series study, utilizing a one-way repeated measure multivariate analysis of variance (MANOVA), was to examine the
difference that laughter has on job satisfaction ratings. Specifically, the researcher investigated how pulses of laughter heard throughout the normal workday over a two-year period affected employees’ job satisfaction via summated scores of the Job Satisfaction Survey (JSS). By understanding the relationship between daily infused laughter and job satisfaction, findings of the study will be able to provide business owners and human resource management, and counselors of employee assistance programs information relevant to the implementation of altering the working environment in turn increasing job satisfaction and lowering levels of occupational stress. The rationale for this study was that although much work has been done in the areas of employee assistance programs and their interventions, little is known about concurrent intervention methods to increase job satisfaction with minimal participation required. This dissertation strives to educate employee assistance program counselors who work with a variety of companies, a cost free, alternative method to alter environments and lower stress levels of employees while on the job and in turn increase job satisfaction.

**Research Question**

Do intermittent pulses of laughter played over intercom sound system throughout the normal workday have a positive impact on employee job satisfaction ratings in a treatment group compared to a control group?

**Hypothesis**

Hypothesis: Job satisfaction will be positively related to intermittent pulses of laughter played over intercom sound system in the treatment group.

**Null Hypothesis**

H0: Intermittent pulses of laughter will not have an effect on job satisfaction in either the treatment group or the control group.
Assumptions, Limitations and Delimitations

Assumptions

As an employee-owned business and an active shareholder, it is assumed that all participants were honest, and did not use socially desirable answers, on all the self-report questionnaires that they completed for their employer on a quarterly basis. Another assumption is that a two-factor mixed research design was the best research method for this study. The researcher also assumed the company did not make any major changes to their companies’ structure, policies and/or procedures during the course of the study. A fourth assumption is that the results may be generalizable to the situations of other businesses across the nation. A final assumption is that the instrument used for the study had accurate previous documentation for reliability and validity.

Limitations

There were a few limitations to this study. Some might consider a limitation to be the socially desirable answers as a factor in self-reported levels of job satisfaction. Another limitation to consider is the use of one company within one country as the primary focus, utilizing a specific time with a specific employee pool. The researcher had no part in the dispersal of the questionnaire, as it had been company policy for decades, and agreed upon at time of hire. The researcher did not see the questionnaires until completion of the study. The researcher did not measure any covariates or extraneous variables (e.g., personal conflicts, illness, injury, predisposed personal characteristics, weather, or state of the economy) that may have also influenced job satisfaction. The researcher could not account for and/or was without knowledge of any changes in company policy, procedure, and daily operations during the study that could have had an impact on the job satisfaction scores. An additional limitation to consider
is the researcher was only supplied with the summated scores of the 36-item Job Satisfaction Survey and was not provided a breakdown of the scores of the nine facet subscales in which the summated score is derived.

**Delimitations**

One of the first delimitations relates to the employment status of the participants. Criteria required for participation included employment of full-time status with no employment gaps, except for vacation time, and completion of the job satisfaction survey the first two quarters of 2016 through the first two quarters of 2019. For the purpose of this study a company that already had longstanding implementation of the Job Satisfaction Survey incorporated into company practice was utilized with the absolute approach being taken to represent dissatisfaction versus satisfaction.

**Significance of the study**

Elevated stress, depleted employee morale, and low job satisfaction increase the likelihood of workplace violence. According to the Occupational Health and Safety Administration (OSHA, 2019) nearly 2 million Americans are affected by workplace violence, annually. Magnavita (2014), stressed the importance of implementing programs and interventions that protect the employees, to reduce the likelihood of incidents taking place. To better understand the impact laughter may have on job satisfaction it is important to understand the relationship between Employee Assistance Programs, stress interventions (such as laughter) and job satisfaction (Mesmer-Magnus et al., 2012; Pignata et al., 2017). Increasing employee participation and making modifications to the employee environment in order to reduce the amount of occupational stress and improve job satisfaction can be a challenge (Cooper & Cartwright, 1994). With an estimated 3,671,000 supermarket and grocery store employees
reported in 2019 (Statista, 2019), knowing the effect on job satisfaction that laughter infused into the daily routine of an employee base, is of utmost importance (Scheel et al., 2017).

The goal of this study was to examine to what extent intermittent pulses of laughter in a normal working environment had on quarterly employee satisfaction ratings. The findings of this study may also lay the groundwork for further research for Human Resource Directors and employee assistance program counselors, on the implementation of laughter with a focus on different working environments to reach the population that lack the motivation or fail to participate in wellness programs.

**Definition of Terms**

**Employee Assistance Program**

Plans that lend a hand to identify and resolve issues facing distressed employees through short-term counseling, referrals to specialized professionals and/or organizations, and follow-up services.

**Extant Data**

Existing archival data set. It is considered non-reactive, as there is no relationship between researcher and individual who created the data.

**Job Satisfaction**

The extent to which an individual feels self-motivated, satisfied and content with their job. This occurs when the individual presumes, they have job stability, potential job growth, and have a gratifying work life balance.
**Priming Effects**

The involvement of stimulation of an individual’s mental representations of events and situations that further influence successive judgment, appraisals, and actions (Eitam & Higgins, 2010).

**Pulses of Laughter**

Digitally mastered recording of voiced and unvoiced laughter, 5 seconds in length.

**Social Priming**

Also referred to as behavioral priming, is the exposure to an external stimulus which in turn activates a mental construct correlated with the stimulus affecting clear behaviors outside of awareness (Doyen et al., 2012).

**Subliminal**

Unconscious perceptions, below the threshold of awareness, affecting behaviors and the mind without conscious awareness.

**Supraliminal**

Above the consciousness threshold, adequate to induce and/or evoke a response. Simply put, individuals are aware.

**Unvoiced Laughter**

Vocal folds are uninvolved in the production process which occurs primarily in the nasal cavities to include sounds characterized as grunt-like or snort-like.

**Voiced Laughter**

Recurring intervals in vocal fold vibration. Voiced laughs are vowel-like and tonal in nature, commonly thought of as typical laughter.
Summary

This quantitative research study contains 5 chapters. Chapter 1 introduction provides relevance such as background, purpose, problem, the research question, significance, definitions, and assumptions. Chapter 2 literature review will discuss what is currently known and the gaps that exist. It addresses the gap in the literature as it relates to environmental factors in employee assistance programs and the positive benefits of laughter. Chapter 3 methodology contains the study design, sample description, procedures for data collection, and the plan for data analysis. Chapter 4 results, and chapter 5 discussion of findings with implications and potential recommendations for future research, followed by references and appendices.
Chapter 2: Literature Review

Stress/Psychological Distress

More than 50 years of research has revealed a significant correlation between stress, in particular, the unhealthy levels of stress (psychological distress) and its contribution to a substantial amount of all the major illnesses which includes cardiovascular disease (Antoni & Lutgendorf, 2007; Miller & Blackwell, 2006). Cardiovascular disease currently is the number one cause of mortality in the United States, with over 100 million Americans reportedly suffering from it or other stress related illnesses such as: diabetes; hypertension; depression/anxiety; asthma; and alcohol/drug addictions (American Psychological Association [APA], 2017). Although a certain amount of stress is normal and promotes adaptation, there are certain health implications in the event of prolonged exposure to both psychological and biological stressors (McEwan, 1998). Health becomes as issue when the stressor exceeds an individuals’ ability to cope with that stress, creating an imbalance, although this does not always create a negative result. Chronic exposure to stressors can lead to negative consequences (Boden, 2005). The term stress is best defined as a strain to the adaptive capacity of an individual, both physiologically and psychologically (Cohen et. al., 1995). Stress of the psychosocial nature is based on the individuals’ interpretation of a given situation, its potential interference in a personal goal, and its level of importance to that individual. (Rubin et al., 1993). Psychological distress, also referred to as stress or emotional distress, with literature commonly using these terms interchangeably as it relates to emotional states negative in nature. Psychological distress is a consequence of the body’s internal reaction to external stressors (Brotman et al., 2007; Lazarus & Folkman, 1984). McKenzie and Harris (2013) discuss psychological distress in terms that when individuals meet up with a stressful situation they go through a process of internal
appraisals (typically subconscious) and based on situational demands and/or constraints, beliefs, locus of control, risk perception, coping styles will generate positive or negative feelings coupled with physiological transformations, with social functioning, somatic health and wellness, morale and overall well-being long term consequences.

**Physiology of Stress**

The body’s automatic response to overcome its perceived stressor, whether it is real or an imagined one is also referred to as the stress response (Godoy et al, 2018). The three-stage process of change that the body undergoes when experiencing stress is referred to as general adaptation syndrome [GAS], (Seyle, 1956). The stages in the process are categorized as: Alarm, resistance, and exhaustion. The alarm stage consists of the natural “fight or flight” response (Goldstein, 1990). In this stage the body is preparing for the adverse circumstances, automatically responding with an increase in heart rate, an increase in blood pressure, and the release of both adrenaline and noradrenaline, as well as the stress hormone, cortisol. The second stage known as the resistance stage is the body’s continued defense against a stressor that is unresolved. Unresolved stress expends the body’s resources as it continues to be on high alert continuing to release stress hormones (Rothschild, 2000). Prolonged release of the stress hormone, cortisol has repercussions. First, the body starts to adapt to what has become the new norm in stress level. Secondly, the body’s response to the prolonged stress response results in physical (high blood pressure, insomnia, muscle pain, indigestion, common cold and flu, etc.), emotional (frustration and irritability), mental (poor concentration), and behavioral issues (addictions) (Bendelow, 2009). If the body is unable to counteract and offset the effects of stress it enters the third stage known as the exhaustion stage. In this stage, prolonged, chronic stress leads to psychological distress, which in turn depletes the body’s resources exhausting the body’s
health physically, mentally, and emotionally, having nothing left to fight stress (Variath, 2019). The effects of this stage not only weaken the immune system but, can be life threatening (Segerstrom & Miller, 2004). Individuals are at risk of such things as: depression, anxiety, burnout, hypertension, coronary disease, etc. (World Health Organization, 2000).

**Effects of Stress**

According to Seyle (1956), the various reactions in the body and the extent to which it uses its available resources, differs from individual to individual. How the body copes with the perceived stressor plays a key role in its ability to overcome and normalize in order to return itself to a pre-stress state. Established in 1978, The American Institute of Stress serves as “clearinghouse for information on all stress related subjects” (American Institute of Stress [AIS], 2020). Founded by Dr. Paul J. Rosch, the goals of AIS (2020) are as follows:

The Institute is dedicated to advancing the understanding of the role of stress in health and illness, the nature and importance of mind/body relationships and how to use our vast innate potential for self-healing. Our paramount goal at the AIS is to provide a clearinghouse of stress related information to the general public physicians, health professionals and lay individuals interested in exploring the multitudinous and varied effects of stress on our health and quality of life (AIS, 2020).

Contributors to AIS (2020) compiled a list of the 50 common signs and symptoms of stress. **Musculoskeletal System**—muscle contraction triggering tension headaches, migraines and musculoskeletal pain in the upper extremities and lower back (National Research Council & Institute of Medicine, 2001). **Nervous System**—increased heart rate, elevated blood pressure, increased glucose and changes in digestive processes. **Cardiovascular System**—increase heart rate, stronger heart muscle contractions, and dilation of blood vessels to heart. **Respiratory System**—rapid breathing, panic attacks. **Endocrine System**—increased production and release of cortisol and epinephrine, also referred to as stress hormones. **Gastrointestinal System**—increase in appetite, tobacco and/or alcohol use, occurrences of acid reflux, nausea, constipation,
or diarrhea. **Reproductive System** – In men, impairment of testosterone and sperm production, possibly impotence. In women, irregular menstrual cycles, and decreased libido. (Morokoff & Gilliland, 1993).

**Types of Stress**

There are several different kinds of stress: acute, episodic acute and chronic (APA, 2012a). The first type, acute stress, is defined as the most common form which is doled out in small doses and is summed up as the stress of the here and now and the anticipation of what is about to occur. Acute stress is short-lived, and the symptoms may include rapid heart rate, shortness of breath, sweaty palms, gastrointestinal complications, muscular and emotional issues (Asmundson & Taylor, 2005) Acute stress, in moderation, is not all bad and is known to encourage adaptation, through a process of adaptive calibration (McEwen, 2004). The second type of stress is episodic acute, which is characterized as frequent bouts of acute stress. Episodic acute stress may result in: Migraines, hypertension, and heart disease. Most common in “Type A” personalities who set themselves unrealistic or unreasonable goals, bringing on longer bouts of ceaseless stress (Hammen et al., 2009). The third kind of stress is chronic stress. Chronic stress destroys the mind and body, excoriating it layer by layer, over time resulting in functional and structural changes throughout the brain and Central Nervous System (Yaribeygi et al., 2017). Chronic stress affects the overall well-being of the individual. This form of stress manifests itself in an assortment of emotional, behavioral, and physical maladies and is associated with a high mortality rate for those afflicted (Coe & Lubach, 2003). The American Institute of Stress (2019) reported stress to be the leading cause of premature deaths, with stress-related issues accounting for 75-90% of all visits to health care providers. Concurrently, the American Psychological Association (2019) revealed stress to be a key component in the top 6 causes of death in
America, those being: Heart disease, cancer, lung ailments, accidents, cirrhosis of the liver and suicide. Stress and the exposure to it is a universally known human experience (Devries et al., 2006). However, the mechanisms involved in coping, as well as the nature of the stressor, the frequency of that stress, the duration and magnitude, all differs from one individual to the next. Chronic stress and unhappiness prompt an increase in the fight-or-flight response, translating into medical, psychological, and/or behavioral distress (Quick & Henderson, 2016).

**Job Stress**

According to the National Institute for Occupational Safety and Health (1999), job/occupational stress is defined as “the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker. Job stress can lead to poor health and even injury” (p. 6). The 2019 Mind the Workplace Report (Mental Health America, 2019) reported that more than one-third of employed Americans report job stress is creating irreparable damage to their physical and emotional-wellbeing. Job stress disorders are the fastest growing disease category, according to the World Health Organization (2019). The American Psychological Association (2017) reported job stress to be the third most common stressor amongst Americans at 61%, coming in behind the future of our nation (63%) and money (62%). Heerwagen et al. (1995) indicate alterations to the working environment may be beneficial to assist employees’ function optimally, work efficiently, and benefit psychologically. There is a strong correlation between physical health, psychological well-being, and job satisfaction. When a decline occurs in one, they are all affected (Dewe, 1991). The American Psychological Association (2019b) reported that 65% of U.S employees indicate that work was a considerable source of stress with over one-third of those reporting chronic levels of
work stress. Individuals with high levels of reported job stress spend 46% more on health care. (Mental Health Foundation, 2016).

There are many indirect costs associated with occupational stress. Absenteeism, productivity, turnover rates, healthcare costs, and psychological instability affecting mental acuity and creativity, are just a few examples (Goetzel et al., 2018). Van der Klink et al., (2001) found stress management interventions to be effective for occupational stress and perceived quality of life. Ashkanasy and Hartel (2000) report more pressure and stress in the work life of the modern employee. The Healthy People 2020 report put out by the United States Department of Health and Human Services (HHS, 2020), reported that over 80% of all physician visits were for either stress-related or stress-induced maladies. Also disclosed was the fact that, psychosocial work stress alone has an annual estimate of $300 billion. This includes such things as insurance claims, absenteeism, and failed productivity. According to research conducted by Goh et al. (2015), job stress costs $190 billion in health care costs and causes nearly 120,000 deaths annually. Occupational pressures and fears were found to be the principal source of stress reported in a recent survey done by The American Institution of Stress (2019), with 75% reporting an increase from a decade ago. Stress results in an estimated 1 million employees being absent every day at a cost of over $300 billion annually. Escalated absenteeism due to work-related stress is said to cost United States businesses over $30 billion annually in lost productivity due to absenteeism and sick days. (Pazzanese, 2016).

**Workplace Violence**

According to the United States Bureau of Labor Statistics (2020), occupational/workplace violence is on the rise with assaults being the second leading cause of workplace deaths, with 48% being in the retail industry. Saleh et al. (2020), reported a link between the

Organizational culture will erode an organization by paralyzing its workforce, diminishing its productivity, and stifling creativity and innovation. We can conclude that if employees are happy and healthy, they can be their most productive. So, organizations need to construct a culture where employees can be at their best and shine (p. 9).

A meta-analytic review done by Zhang & Bednall (2016), revealed job satisfaction as the mitigating factor in mediating behaviors and performance. Dissatisfied employees undertake in negative behaviors (De Clercq et al., 2019), with Claybourn (2011) reporting individuals that hold an unfavorable opinion of their work have an increased likelihood to believe it to be acceptable to cause harm to others. Priesemuth et al. (2014) suggest a higher tendency towards deviance and violence in the workplace with employees who report lower job satisfaction, with many other studies concluding the same (Bowling, 2010; Hoobler & Brass, 2006; Srivastava, 2012).

Job Satisfaction

The negative consequences of job stress can generate a domino effect by causing an increase in turnover rates, as well as increasing medical and insurance costs and ultimately disrupting operations, diminishing productivity, and lowering overall job satisfaction (Korn & Ferry, 2018). Colquitt et al, (2019). define job satisfaction as, “a pleasurable emotional state resulting from the appraisal of one’s job or experiences” (p. 94). Spector (1997), defined job satisfaction as “how people feel about their jobs and different aspect of their jobs. It is the extent to which people like (satisfaction) or dislike (dissatisfaction) their jobs” (p. 2). Ambivalence, as
it pertains to an individual’s job satisfaction is a state of conflicting attitudes, where the individual holds both positive and negative attitudes about their job. It is used as a means of self-protection. The propagation of ambivalence is seen as a weakness that creates conflict within the workforce, as it tends to pull the individual in different directions as cognitions and emotions clash creating cognitive dissonance (Reich & Wheeler, 2016).

In 2014, a Gallup poll presented findings that only 22% of U.S. employees are positively engaged in their employment and thriving, with more than 50% reportedly being disengaged and stagnating. The most recent Gallup (2018) employee engagement poll of our nation’s workforce discovered that number to have climbed with 53% of employees reportedly not being fully engaged in their employment (emotionally or cognitively). More recently, a survey conducted by Harris Interactive, Inc (2019), revealed 42% of the nation’s workers are coping with symptoms of burnout, with 19% reporting their employment to be a source of livelihood, but not satisfying.

**Importance of Job Satisfaction**

Increased job satisfaction is associated with an improvement in employee’s health, both physically and mentally (Faragher et al., 2005). Employment can be a determinant of one’s health. There is evidence linking the social benefits affiliated with employment and health. According to the research conducted by Law et al., (1998), findings revealed a strong correlation between an individual’s well-being and health being positively influenced by participation in a meaningful occupation. It often manifests as a sense of stability and the earnest belief that the employee’s contribution makes a difference, with a satisfied employee motivated to remain loyal and an active participant. (Lewis, 2019). “Work influences one’s psychological identity and sense of well-being. Work establishes one in the community of humankind” (Szymankski & Parker, 1996, p.1). Job satisfaction is an indirect outcome of an effective intervention/wellness
program. The implementation of effective workplace interventions focuses on protecting and preserving employees’ physical and mental well-being (Czabala et al., 2011). According to Wright (2001), “job satisfaction reflects the employee’s reactions to what they receive” (p. 562).

**Measuring Job Satisfaction**

When measuring employee job satisfaction, there are four steps involved. 1. Understanding what job satisfaction means. 2. Listing the benefits of the measurement. 3. Use a series of measurement tools, reviews, and other means possible to collect feedback. 4. Execute changes based on your findings (Smith, 2019). The most utilized measures for assessing job satisfaction are:

*Job Diagnostic Survey*

A 15-item self-report instrument developed by Hackman and Oldham (JDS, 1975) to provide a three-dimensional measure of job characteristics; personal and work outcomes; and psychological readiness. The Job Diagnostic Survey was developed with the intention of measuring motivational and productivity components of a job, but most often used as an evaluative assessment to determine any affective reactions to changes in job design.

*Job Descriptive Index*

Smith et al. (JDI, 1969), developed a 72-item index that measures attitudes of overall job satisfaction. The five dimensions of supervision, co-workers, promotion opportunities, work, and the job itself, are measured to establish an individual’s job satisfaction.

*Minnesota Satisfaction Questionnaire, (MSQ, 1967)*

This questionnaire of job satisfaction comes in either the 21-scale long form or the 3-scale short form. This questionnaire measures the “fulfillment of the requirement of an individual
by the work environment" (Weill et al., 1967), by measuring facets of intrinsic, extrinsic and general satisfaction.

*Job Satisfaction Survey, (JSS, 1983, 1994)*

Spector (1983) explained job satisfaction as the degree to which an individual is content with their job and the distinct elements (facets) of that job. While an individual may like their job, there may be certain facets that are negatively affecting their overall satisfaction (Nwobia & Aljohani, 2017). Job satisfaction is collectively correlated to their personal wellbeing and the Job Satisfaction Survey measures at a global level (overall satisfaction), as well as each facet with more specificity (Warr, 2002). Spector (1994) created a scoring system based on a continuum portraying dissatisfied to satisfied, with ambivalence falling in between. Figure 1 shows the scoring continuum established by Spector for the absolute values of the 36-item summed scores as it relates to the JSS.

![Figure 1](image)

*Figure 1*
*Job Satisfaction Absolute Values Cutoff Scores*

The Job Satisfaction Survey [JSS] quantifies nine job facets: pay, promotion, supervisors, rewards, benefits, operating conditions, co-workers, communication, and nature of the job via a 36-item self-report Likert style summed rating scales measured on a continuum, quantitative in nature.
Job Facets

Pay

Money is a necessity of existence and some consider it to be instrumental in an employee’s motivation, with equity of pay considered a key factor in job satisfaction (Tremblay et al., 2013). Happiness with rate of pay affects overall subjective well-being and performs as a mediator between an employee’s attitude, participation, and job satisfaction, as it assists in meeting basic material needs (Al-Ali et al., 2019).

Promotion

Human Resources Management (2013), defines Employee Promotion as:

An advancement of an employee to a better job- better in terms of greater responsibility, more prestige or status, greater skills and especially increased rate of pay or salary. The upward reassignment of an individual in an organizational hierarchy, accompanied by increased responsibilities, enhanced status and usually with increased income though not always so (paras. 2-3).

Higher job satisfaction is reported with employees who regularly receive promotions or presume a promotion is possible, suggesting promotions have a significant influence on the outcome of job satisfaction (Kosteas, 2010).

Supervisors

Carlson et al. (2012) gave priority to the roles organizational figureheads have, as they are a critical influence in a company’s favorable outcomes or lack thereof. Moderating fairness, providing emotional and instrumental supports, and promoting positive attitudes are just a few components Qureshi and Hamid (2017) indicated that are of critical significant importance in connection to job satisfaction. Supervisors are responsible for performance evaluations, providing feedback, managing workflow, resolving employee issues, and identifying and implementing career advancement opportunities (Kollman et al, 2020).
Rewards

Monetary incentives contribute to positive outcomes, as employees tend to work harder when appreciation is felt (Hassi, 2019; Mercer, 2003). Monetary incentives have a measurable impact on employee motivations and can be damaging to an employee’s perception of job satisfaction and can potentially encourage deviant behaviors, if supervisors and the organizational climate base incentives around conformity and the toleration of bad behaviors (Litzy et al., 2006).

Benefits

Defined as a service or property that is provided to an employee by their employer as compensation for services rendered (Yoon & Khan, 2019). Empirical evidence supports fringe benefits being a vital component in determining job satisfaction (Artz, 2008; Shukor & Fauzi, 2019). Increased levels of stress and demands of the job have a negative influence on job satisfaction, which is why benefits and incentive need to counter those effects (Ofei-Dodoo et al., 2020). Employees need to feel valued (Alhassan & Greene, 2020). Employees look to improve their lives and achieve satisfaction, as they strive for self-fulfillment navigating between the tiers of Maslow’s hierarchy of needs (Schilling, 2019). Fringe benefits are motivational attributes generating levels of fulfillment which positively influence job satisfaction (Norbu & Wetprasit, 2020).

Operating Conditions

Also referred to as working conditions and the obligations of work-related tasks and responsibilities (United States Department of Labor, 2020). Physical conditions, Job characteristics, and interpersonal relationships are all components of operating conditions that can have a significant influence on an employee’s morale and overall satisfaction (Ali, 2008).
Schniepp and Harrison (2015), proclaimed operating conditions to not only define accountability, but also provide the employee with guidance and clearly lay out what is expected of them. Ashraf (2019) reported elements of the working environment can generate a positive influence on an employee’s job satisfaction. By creating an organizational climate that inspires employee engagement can be a key motivator leading to a higher tendency of self-reported job satisfaction (Sabir, 2017).

Co-Workers

Stein (2007) stated, “Group cohesiveness, or a sense of loyalty among co-workers, or teams is a powerful antidote to occupational stress” (p. 174). Social relationships assist in the reduction of psychosocial hazards associated with prolonged exposure to chronic levels of job stress (Carmeli et al., 2009). The perception that co-workers, supervisors, and other key personnel are vested helps to facilitate a supportive working environment conducive to productivity, improved morale, and job satisfaction (Tran et al., 2018).

Communication

Communication is a critical component to job satisfaction which, combined with commitment are considered integral factors in an organization’s sustainability (Mehra & Nickerson, 2019). Clear and concise (informal and formal) communications in all respects, can foster an increased level of commitment and strengthen positive relationships throughout an organization positively influencing job satisfaction (Batugal & Tindowen, 2019). Lack of communication and poor collaborations contribute to workplace failures, with Proctor (2014), reporting communication as the key factor in employee’s attitude, happiness, and global job satisfaction.
**Nature of the Job**

Defined as the kind of job, typical duties, and the environment in which it is performed on a day-to-day basis, influencing appreciation as a predictor of job satisfaction (Pfister et al., 2020). The enjoyment of one’s occupation and level of pride in accomplishments are recognized as having a positive impact on job satisfaction, with higher levels of dissatisfaction coming from employees that fail to attain a sense of ownership and self-fulfillment (Wu & Wu, 2019).

Spector (1985) postulated these nine job facets to be vital elements of overall global job satisfaction, with the JSS being the optimal survey instrument created for use in the field of human services, public and nonprofit organizations (i.e. retail).

**Maslow Hierarchy of Needs**

According to Abraham Maslow’s “hierarchy of human needs,” (1943), humans have five fundamental, psychological needs. Maslow’s model, in the shape of a pyramid, provided a visualization to better understand motivation and human behavior. The hierarchical nature of the needs indicate that needs must be met in order to move to the next level. The base of the pyramid is the physiological level. This is essential for human survival: food, water, and shelter. Maslow (2000) included income in the first basic level positing that if individuals feel justly compensated, they will stress less and not compromise other areas of employment that need attention. Wages provide food, water, and shelter, which are the basic survival needs. Only when these needs are met, can the individual move to the next level of the pyramid which is Safety. This level encompasses an individual’s personal security, employment, resources, health, and property, including freedom from stress and anxiety. Only when an individual perceives their safety conditions being met, can they move to the next level of Love and Belonging. This level includes the need for friendship, family and the sense of connection. Once belongingness is
obtained, the individual can move on to the level of Esteem. This level covers the fulfillment of respect, strength, recognition, and respect. With all the previous four level being met, the individual can seek Self-Actualization, the last tier in the pyramid. Maslow (1987) stated some needs take precedence over others and life experiences may cause fluctuation between the levels of the hierarchy. Maslow et al. (1988) stated:

As humans, we respond at various need levels. Maslow proposes that we have five such levels. At the first, most basic level is physiological needs-food, sleep, sex, drink, shelter. These needs must be satisfied before an individual can be motivated at a second level—the safety needs. Safety needs such as security, stability, protection, and strength are important motivators when any sort of threat to these needs might be present. The third level consists of the belongingness and love needs, our social motivators... The fourth need level is identified by Maslow as the esteem needs. These needs represent both self-esteem (our desire for achievement and mastery) and esteem of others (our desire for reputation and prestige). These needs spring from our belongingness needs and represent a further stage in accomplishing our goals. Finally, at the fifth level in the hierarchy, Maslow identifies the need for self-actualization, our desire for self-fulfillment and for realizing our potential. Maslow suggest that we may be striving for this if other needs have been met, but self-actualized person probably does not exist (p.306).

Levels of need, need not be satisfied 100 percent before an individual can proceed to the next tier. The desire to grow as an individual stem from the desire within (Maslow, 1943). Continuous fluctuations between levels occurs with life experiences. At any given time in an individual’s life, certain needs take precedence over others. Human motivation as it applies to the work setting can be an important contributor to job satisfaction (Tietjen & Myers, 1998).

**Employee Ownership**

According to the National Center for Employee Ownership [NCEO] (2020), An employee stock ownership plan is defined as, “a qualified, defined contribution employee benefit plan that invests primarily in the stock of the employer company” (pg. 3). Brohawn (1997) termed employee-ownership as a “business community composed of people sharing the values
of ownership and working together in an organized way for their mutual benefit as co-owners” (p. 1). Over 14 million U.S. employees own company stocks through employee-stock-ownership programs, 401(k) plans, stock-purchase plans, among others, with the NCEO (2020), reporting these stocks hold more than $940 billion in assets. Turning employees into shareholders enriches corporate performance (Hillman & Keim, 2001), as employees have a vested interest in the company outcomes (Kruse et al., 2008). Having a stake in the future of their company, employees are more likely to take comprehensive view translating into increased productivity, and other achievements (Hill & Snell, 2017). Shared commitment and values can create a strong organizational culture, stimulate creativity, teamwork, and ultimately influence solidarity and trust (Bakker & Schaufeli, 2008). Employee ownership gives employees a voice in management and empowers leadership (Gao & Jiang, 2019). The valuable opinions, concerns, or input on work-related matters that they make serve as a valuable contribution in organizational development (Villaluz & Hechanova, 2019). Employee ownership is correlated with elevated employment stability, increased commitment, motivation, participation and job satisfaction (Freeman, 2007).

Empirical evidence continues to provide consistent documentation of the positive influence on employee behaviors and attitudes that employee ownership has (Chen et al., 2020; Gamble et al., 2002; Pendleton et al., 1998; Wilhelm, 2020). Organizations need to adopt a culture where information is shared and there is full participation in decision making at all levels (Pendleton et al., 1998). Employees have an influential power in organizational change as they are valued for who they are and the contributions that they make (Caldwell et al., 2006), with each employee having the potential to evolve, accept responsibility, and transcend (Van Doel, 2017). Employee ownership aligns the goals of both the employee and the company (Alwadani
& Ndubisi, 2019). A company’s success is a result of the employee’s direct contribution and employee surveys are a prime motivational device for improvements within the organization (Mahmood et al., 2019). The weight of the employee’s responses reflects on the company with the incentive being long-term equity compensation from the prosperity and success of the organization (Bebchuk & Fried, 2010). An employee of an employee-owned company does a company justice by providing honest responses to self-report surveys, as it allows the employee to align themselves to fuel growth objectives and accomplish the desired end results (Bophela & Govender, 2015). Discrepancies in self-report occur when individuals attempt to present themselves in a positive manner, known as social desirability bias. Respondents don’t want to be seen in a negative light by their superiors or to even think of themselves negatively (Brenner & DeLamater, 2016). Employees hurt nobody but themselves and the profit margins when answering an employee survey dishonestly in order to look better in the eyes of those around them (Furnham & Taylor, 2004). Respondent fatigue can be avoided if the organization continues to encourage participation and provide valuable feedback as to the purpose and engage employees in being proactive in the initiative to improve the company, as a whole (Porter et al., 2004).

**Human Resource Management**

Human Resources Management (HRM or more commonly HR) is defined as “a function in organizations designed to maximize employee performance in service of their employer’s strategic objectives” (Rihan, 2009). Responsibilities of HR involve job design and analysis (Graen et al., 1982); employee training and development (Latham, 1988); compensation and benefits (Bryant & Allen, 2013); performance management (Bothma, 2020); employee engagement (Suomi et al., 2019); and communication (Chygryn et al., 2019), all considered
direct administrative functions of an organization (Ramlall & Melton, 2019). HR plays a key role in the planning processes of an organization and oversees the promotion of strategic thinking (Al-Omari et al., 2019). HR plays a pivotal role in fostering positive attitudes and creating a healthy culture by leading through example (Morris et al., 2019).

**Organizational Culture**

The Association for Talent Development’s, 2017 State of the Industry Survey (Virgin Pulse, 2017) revealed 78% of the respondents declared employee wellbeing, working environment, and organizational culture to be key components to business strategy, with 97% agreeing this directly influences employee engagement and job satisfaction. Employee assistance programs include a comprehensive approach to organizational change and stress management with the keying being motivation to find a solution to life’s obstacles and providing access to counseling (Araujo & Pestana, 2017; Buller, et al., 2018). Bophela and Govender (2015) state, “Employees’ feelings of satisfaction and happiness impact positively on their work environment. Furthermore, they have a sense of well-being which increases employee morale, job satisfaction, motivates employees and reduces staff turnover” (p. 506). Creating an environment that promotes the health and safety of employee’s, involves the promotion of positive climate, culture, and good practices for all employees (Di Fabio, 2017).

**Organizational Climate**

Spector (2019) defines organizational climate as an organizations policies and practices. This includes behaviors that are supported and promoted via written rules, enforcements, expectations (encouraged and discouraged), and rewards. Climate is characterized as behaviors, feelings, and attitudes that are recurring and characterize the organization. Climate is different from culture. Culture is shared beliefs, perceptions, assumptions, rituals, the clothing people
wear, technology, and company values. Although climate is a part of the culture, climate is an aspect of the psychosocial environment which reflects the kind of behaviors that are acceptable and presumably employed within the organization, with the organizations climate encouraging employees to engage in certain behaviors (Spector, 2019). When comparing HR system strength and organizational climate in conjunction with job satisfaction, Li et al. (2011) discovered a positive relationship between a strong HR system which employs a healthy organizational climate and job satisfaction. According to the Society for Human Resource Management ([SHRM], 2020), Human Resources has an ethical obligation and a responsibility to rejuvenate the workforce with transparency and fairness used to provoke trust and provide a healthy, inclusive atmosphere. Further stating that they have an obligation to “champion the development of others as ethical leaders in the profession and in organizations” (SHRM, 2020). But, when an employee’s stressors manifest and negatively influence their health, behavior, and productiveness, it may demonstrate the need for supplementary support. It is the responsibility of the Human Resource department to provide for the safety and wellness of the employees of an organization, as well as the development and promulgation of policies and upkeep of Employee Assistance Programs (Nunes et al., 2017).

**Working Environment**

Huysamen (1999), presented the working environment in terms of three categories: physical working environment (infrastructure, lighting, furnishings, ventilation, temperature, etc.); human working environment (colleague relationships, expectations, feedback and support); and organizational working environment (organizational culture, structure, policies, and procedures). Skalli, et al., (2008) describe the working environment as being two dimensional. The first dimension is the work itself. The characteristics of the job which carries intrinsic
values. They went on to report that the second dimension in the working environment is the social and physical working conditions, also referred to as the contextual aspect of a job. According to Spector (1997), the working environment also is comprised of job security, motivation to perform well, employee safety, positive relationships amongst management and fellow employees, as well as actively feeling a part of the decision-making process. Spector (1997) provided further proof of an adverse effect on employee performances with those business that ignored the importance of the working environment.

Overall job satisfaction is dependent on a working environment that promotes the ability for employees to be more productive and positive relational interactions (Chandrasekar, 2011). A good working environment is detrimental to employee job satisfaction with bad working conditions tending to restrict an employee’s capabilities and prevent the attainment of their full potential (Raziq & Maulabakhsh, 2015). Robbins (2001) presented evidence that job satisfaction is influenced strongly by the working environment. Working environment, organizational culture, excessive levels of stress and an individual’s inability to properly regulate that stress may contribute to psychosocial risk factors in the workplace and has the potential to lead to deviant behaviors (Roberts et al., 2011). The manifestation of these behaviors increases the likelihood of a betrayal of the fiduciary relationship between an employee and their fellow coworkers and employer (Stefano et al., 2017).

**Culture of Levity**

A key component to workplace culture is a positive atmosphere. Levity in the workplace provides a pleasurable alternative within a controlled environment, for employees to work through the obstacles of life (Colarusso, 1993). Creating an environment that encourages laughter and levity can enhance an organizations culture and climate, providing a strong
foundation to build upon (Michelson, 2019). Walker and Harvey (2018) define levity as “an uplifting and/or pleasurable dynamic interaction that lacks tension and anxiety” (p.174-175). Gostick and Christopher (2008) suggested fun in the workplace will reduce stress, employee turnover, and improve efficiency and customer service. Empirical evidence suggests a strong correlation between levity in the workplace and increased levels of communication, and an upsurge in positive outcomes within the domains of creativity, innovation, respect, health, and wealth (Pundt, 2015). Levity leads to laughter and a reduction in power distance, increasing group cohesion (Glenn, 2010). Organizations and their management staff set the environmental culture. Infusing laughter and levity into the day to day working environment may enrich and improve psychological well-being (Walker & Harvey, 2018).

**Counseling and Human Resources**

The United States Department of Interior (2020) lists problem resolution, brief counseling, and consultation with workplace stakeholders such as the Human Resource departments, as the key professional services provided by EAP counselors. Mental health clinicians contracted with Employee Assistance Programs focus on short term interventions to assist impaired employees. This approach is highly strategic, and solution based, focusing on factors that prevent change (Orford & Edwards, 1997). Sharar (2008), emphasized that EAP counselors use “interventions which are guided more by helping clients define and resolve their goals than by problem assessment or problem solving” (p. 360).

**Employee Assistance Programs**

Employee Assistance programs (EAP) date back to the late 1930’s and were first established to aid employees coping with difficulties such as: alcohol and drug dependency, mental distress, financial, and familial obstacles (Soeker et al., 2014). Employee assistance
programs changed direction with an increase of Post-Traumatic Stress Disorder and other job stress and depression related maladies with the events of September 11, 2001. The new focus was geared more toward the implementation of companywide practices concerning improving job satisfaction, and lowering liability and risk by providing assessments, support and referrals to additional resources (Attridge, 2012). According to the American Institute of Stress (2019), 80% of US employees spend 12-20 hours a month stressing about financial concerns, with over 20% spending more than 5 hours of work time per week thinking about their particular stressors, affecting work-life balance, quality of life and job satisfaction. Employee assistance programs are an employer sponsored formal intervention system designed to offer supports to employees struggling with personal and/or work-related issues (Bar-Cohen, 2014). Employee Assistance Programs are strategic initiatives implemented to provide supports from problem prevention to problem-intervention (National Research Council, 1994). According to Quinley (2003), employers should have a vested interest in their employees and successful employee assistance programs should focus on

- Employee workshops (such as stress management concerns, smoking cessation, and dietetics);
- Transitory mental health counseling;
- Legal and financial business;
- Referral to resources for life/work matters;
- Guidance and consultation for management and supervisory staff.

Employee Assistance Programs were established to provide supports in an effort to minimize a variety of dysfunctional work behaviors by fostering a positive culture, promoting well-being, and taking early intervention approach (Kocakulah et al., 2016). The implementation of employee assistance program has become more prevalent with the increased awareness of job stress and furnishes a wide range of services that function as an important resource for both the employee and employer by focusing on employee mental health and wellbeing. (Sims, 1994).
Motivation

Merriam-Webster (2020) defines motivation as a force, stimulus or influence: an incentive or drive. In an organizational setting, motivation is that which causes individuals to choose certain behaviors among many options available to them (Griffin & Moorehead, 2013). Motivation to participate stems from the individual’s placement on the Maslow’s pyramid and meeting the needs at that level. (Robbins, 2001). While job satisfaction is one’s emotional response to their current working condition, motivation is identified as the propulsion to seek and satisfy one’s needs (Alshallah, 2004). Research on employee assistance and worksite wellness programs consistently shows the average participation rate to be less than 50% at an average of 23%. Women were more likely to participate than men and married participants had higher percentage of participation than their single counterparts (Robroek et al., 2009; McLellan et al, 2009). Fears of disclosure and concerns about anonymity prevent participation (Greden, Garcia-Tosi, & Harrington, 2019). Employee assistance program intervention/wellness programs tend to target specific health risks with incentives addressing those risks. The needs and wants of today’s employee are evolving, with job security, regular feedback, and opportunity for advancement on top of the list of indicators of key motivating factors (Singh & Tiwari, 2011). Participation incentives offered for wellness programs are not always effective if they do not take into consideration the employee’s abilities, needs, socioeconomic and ethnic backgrounds (Schmidt et al, 2010). By adapting motivational factors within an organizational framework, the basic needs of the employee could be fulfilled, building a sense of empowerment, optimism, and worth, while minimizing absenteeism and maximizing overall well-being (Dobre, 2013).
Priming

According to The American Psychological Association ([APA], 2019a) priming is defined as “the effect in which recent experience of a stimulus facilitates or inhibits later processing of the same or a similar stimulus. Most people aren’t aware when it happens” (para 1). Priming provides an opportunity to influence individuals without directly telling them what to do. It can initiate change, create a calming effect, enhance learning abilities, and be effective on both introvert and extrovert personalities (Sanderson, 2019). Bargh et al. (1996) operationally defined priming as, “the incidental activation of knowledge structures, such as trait concepts and stereotypes, by the current situational context” (p. 233). Davies (2009) further described priming as, “A phenomenon where being exposed to a certain stimulus makes a particular response to a second stimuli more likely to happen. It is like a filter, blinding you from other things that are irrelevant to your goal” (para. 11). “Subtle priming techniques can cause behavior without conscious regulation” (Abbate et al., 2013, Page 481). Priming can be used to yield behaviors and essentially change attitudes that are congruent with a primed group (Strahan et al., 2002). Regarding the concept of subtle, unanticipated psychological priming effects to an element, Molden (2014) stated, “It is now virtually axiomatic among social psychologists that the mere exposure to socially relevant stimuli can facilitate, or prime, a host of impressions, judgments, goals, and actions, often even outside of people’s intention or awareness” (p. 1).

Priming Effects

Priming effects can be best described as the increased sensitivity to stimuli, without the perceptual awareness of being exposed to a stimulus (Ikegama, 2006). Yi (1991) utilized this concept and found significance in target brand evaluations being influenced by context priming of product attributes. The priming effects in this case were advertisements for a specific brand-
named computer, and the proposed outcome was the increased likelihood that the participants would later purchase that brand. Effective priming is done completely outside of the consciousness of the subject and can be used to wield results in order to serve ideological purposes. Priming effects are presented in two formats: subliminal and supraliminal. Subliminal messages are those that fall below the Absolute Threshold Limit (ATL) of an individual’s conscious awareness, they cannot be detected consciously. The opposite of subliminal is supraliminal. Although stimuli evoke similar neural responses, influencing behaviors, supraliminal messages can be perceived by the conscious mind. Supraliminal messages have both conscious and subconscious influence and can have influential effects on people (Dijksterhuis et al., 2006). The performance of an organizations workforce can be influenced in the absence of their awareness in order to get designated results and an atmosphere can be used as a tool and ultimately controlled and manipulated, to enhance organizational performance. (Heide et al., 2009).

**Priming for Desired Outcomes**

Newberg & Waldman (2012) stated, “A single word has the power to influence the expression of genes that regulate physical and emotional stress” (para. 3). Notably, an increase in amygdala activity was found to occur with exposure to just one single negative word or a fearful/angry face (Garolera et al, 2007). Tomoko Ikekami (2006) studied the effects of positive-negative priming effects on impression formation. Using hostile versus friendly words, the conclusion being, the priming word increased the likelihood that the subsequent behavior was affected. Individuals in this study were also found to maintain their primed effect throughout subsequent tasks.
In a series of studies conducted by Bargh et al. (1996), the participants were primed utilizing either polite, rude, or neutral priming models. The results revealed that the individuals in the rude priming version would interrupt a conversation more quickly, whereas the politely primed group would wait longer, if at all, to interrupt a conversation staged with confederates, confirming the hypothesis of the researchers that “social interaction behavior can be primed” (p. 234). The walking speed of participants, down a lengthy hallway, was also found to be affected following a priming exercise utilizing elderly priming stimuli. Behaviors such as this is found to be consistent with certain stereotypic behaviors linked to selected groups (Bargh et al., 1996).

**Priming Techniques**

Several different priming techniques have been proven to be effective engines for this type of application.

*Scrambled Word Groupings*

Created by Srull & Wyer (1979), this method of priming capitalizes on a trait concept that information is more readily accessible and processed when previous cognitive activity has been processed. This information previously encoded affects future judgments, with respect to the originally primed trait. Bargh et al. (1996) utilized this technique in order to test their hypothesis that construct priming would generate differences in behavior. Multiple versions of a scrambled sentence test were provided, each one priming a different construct (rude, polite, and neutral). Results revealed surreptitious activation of the related stimuli.

*Sentence Completion Tasks*

Sentence completion tasks were used in studies conducted by Ikegami (2006). The evaluation of the effects of handling friendly and hostile words on impression formation. Hostile sentence completion tasks elicited an increase in hostile behaviors and mood, whereas the
friendly sentence completion tasks increased probability that friendly behaviors would be evoked.

**Attribute Listing**

Marsh et al. (1999), set out to discover whether three communal features that concentrated on a single concept such as hostility, would generate concept-related characteristics into their novel designs. Their research revealed participants that were shown the three communal features prior to the generation of a pattern, those participants not only utilized those priming features, but also used additional ones consistent with the concept. In the case of hostility, mood, behaviors, and activity levels were all affected by the priming of the hostility attribute. Attribute listing which entertains the notion of listing positive or negative attributes of a given subject, was studied by Dijksterhuis & van Knippenberg (1998) in order to determine any effect on intellectual performance. Those in the positive attribute cluster scored higher on the task presented than those in the negative cluster.

**Images**

Neuman & Lozo (2012) conducted a study which entailed exposing participants to images that evoked feelings of fear or disgust. Following the priming activity, findings revealed a strong influence of primes on an individual’s emotions activated by the appraisal processes and prior exposure. Exposure to images, such as in priming, allows for quicker memory retrieval (Vanderwart, 1984).

**Positive and Negative Words**

Vinkers et al. (2015), investigated language used in research articles over a span of 40 years, establishing words scientifically proven to be positive, negative, and neutral. Positive words: Amazing, assuring, astonishing, bright, creative, encouraging, excellent, favorable,
groundbreaking, hopeful, innovative, inspiring, noel, phenomenal, prominent, promising, reassuring, remarkable, robust, spectacular, supportive, unique. Negative words: Detrimental, disappointing, disconcerting, discouraging, disheartening, disturbing, frustrating, futile, hopeless, impossible, inadequate, ineffective, insignificant, insufficient, irrelevant, pessimistic, substandard, unacceptable, unsatisfactory, unsatisfying, useless, weak, worrisome (para. 4).

Kawakami, et al. (2003), investigated the concept of social category priming and the stereotypic actions that are associated with them. Their findings validated the capability of priming without intention or awareness and were made aware that individuals may “assimilate their attitudes to those of the primed category even when the shift is in a direction that is not personally or socially desirable” (p. 318). Evaluating this one step further, this reinforced the fact that the effect occurred without intention.

Music

Sound is measured in terms of decibels (dB). The normal range of hearing is between 0 and 20 dB in all frequencies. A whisper is measured at roughly 30 dB, normal conversation between 60-70 dB, with Biswas et al. (2019), discovering exposure to levels above 65 dB for extended periods of time a predictor of increased stress and unhealthy food choices in retail/restaurant settings. Prolonged exposure to anything over 85 dB has the capability of causing permanent damage to the auditory system (U.S. Department of Health and Human Services [HHS], National Institutes of Health [NIH], National Institute on Deafness and Other Communication Disorders [NIDCD], 2019). The decibel level of music for effective neural responses ranges between 55-67 dB, with the optimal level registering between 62-67 dB (Novak et al., 2010). Music is utilized to condition environments to achieve objectives, particular in nature (Prichard et al., 2007). The research done by Novak et al. (2010), further revealed
background music at optimal levels led to positive outcomes and an increase in overall satisfaction of the customer.

A study conducted by North et al. (1999), revealed the influence of in-store music on wine selections. It was found that French music led to French wines outselling the German ones, whereas German music led to the opposite effect on sales of French wine, with a follow up survey revealing the consumer being unaware of the music in the background, let alone the effect it had on their purchase. Background music is used to augment atmospherics in a setting and influence the behaviors of the subjected listener (Vida et al., 2007) It is listed as one of the most often used to improve a customer’s experience. Music is used as a learning aid in educational settings as well as a catalyst for increased sales and customer satisfaction in retail settings (Yalch & Spangenberg, 1990). Background music benefits creativity and productivity and has the potential to mediate positive outcomes. Music is linked to an increase in efficiency and accuracy, where repetitive tasks are required (Fox & Embry, 1972; Chasanov, 2018) and can be motivational for creative, cognitive based tasks. (Haake, 2011; Lesiuk, 2005). Certain music can interfere with complex tasks requiring cognitive comprehension, creating a costly distraction. (Anderson & Fuller, 2010; Johansson et al., 2011; Avilla et al., 2011). Krueger (2011) stated, “When we do things with music, we are engaged in the work of creating and cultivating the self, as well as creating and cultivating a shared world that we inhabit with others” (pg. 1).

Haake (2011) identified additional significant functions of music in the working environment:

Inspiration, concentration, positive distraction, stress relief and managing personal space. Employees listened to music for a third of their working week and reported listening to a wide variety of music styles and artists. Music helped them to both engage in and escape from work, and they often used music to seal themselves off from the office environment. Employees managed their listening practices so as not to disturb colleagues or appear unprofessional in front of clients. Managers and employees can
benefit from recognizing the importance of employees being able to select their own music, and the multidimensionality of workplace music listening is also of interest to therapists, office designers and music technology developers (p. 107).

Skandrani, Malek, & Mouelhi (2011), discovered employee attitude and behavior were affected when there was a lack of variation in music, long, repeated exposure to the same music and tended to adopt avoidance behaviors due to these environmental factors. Background music as an atmospheric variable has the power to significantly alter the behavior of consumers. (Milliman, 1986; Ganser & Huda, 2010; Petruzzellis, Chebat, & Palumbo, 2014).

**Laughter**

Laughter as a priming agent was used in a series of experiments by Amoss (2013). Results revealed there to be significant priming effect when using laughter as an emotional primer (mood manipulator) in that it shares similar elemental processes as conceptual priming by eliciting similar characteristic effects on brain activity.

**Laughter**

Laughter does not require a reason or a sense of humor (Martin & Ford, 2018). Laughter is an in-born behavior not under conscious control (Provine, 2014). It is universally recognized as an unconsciously controlled, social emotional contagion, ubiquitous in social interactions. According to Gervais and Wilson (2005), the sounds of laughter are all-encompassing leaving it difficult to differentiate between cultural and generational variations. Greene et al. (2017) reported the sound of laughter was enough to trigger genuine laughter from passersby. Laughter is profoundly behaviorally contagious, and you do not need to be happy to laugh. When laughter is heard, it has the tendency to produce more laughter (Provine, 2004) and generates positive affective reactions in others (Owren et al., 2013) and it has been identified as a more effective
method in regulating negative emotions, playing an affirmative role in diminishing negative emotional experiences (Bloch et al., 2014; Yuan et al., 2010).

**Physiology of Laughter**

Laughter is a natural phenomenon. It is the body’s emotional reaction to internal and/or external stimuli, such as humor which is the perception that something is funny (Louie et al., 2016). During laughter, muscles throughout the body contract and relax, pulse/heart rate increases, respiration rate is irregular with disrupted cyclic patterns increasing ventilation, oxygen consumption, and speeding up the replacement of residual air (Brutsche et al., 2008). Miller and Fry (2009) reported a link between laughter and increased blood flow with the dilation of vessels throughout the cardiovascular system. This biological response is responsible for lowering heart rate during stress response reparation (Dolgoff-Kasparet et al., 2012). Laughter produces endorphins by activating the ventromedial prefrontal cortex (Meletti et al., 2015). Researchers linked the interaction of opioid receptors and the endorphins with the relief of pain and the reduction in anxiety with the chemical response creating feelings of pleasure (Grumet, 1989). During laughter, motor reflexes coordinate the contraction of 15 muscles in the face. Two that play an important role during laughter are the Zygomatic Major and Orbicularis Oculi facial muscles (Frank & Ekman, 2009). The Zygomatic Major muscle starts at the cheekbone and runs to the corner of the mouth. It is responsible for controlling facial expressions. The Orbicularis Oculi is the facial muscle responsible for closing the eyelids and raising the cheeks (Westbrook & Varacallo, 2019). These two muscles work together to produce what is known as the Duchenne smile, named after the nineteenth century French physician Guillaume Duchenne whose work revolved around the physiology of facial expressions (Duchenne, 1990). One of the responsibilities of the limbic system is the regulation of emotions (Casey, Heller, Gee, & Cohen,
Emotion-related automatic responses like the Duchenne smile are scientifically linked with stimulating portions of the brain which influences emotional states, resulting in both psychological and physiological health benefits (Kapadia et al., 2019).

**Benefits of Laughter**

Laughter is used daily to unconsciously shape the affective conditions within social interactions (Scott et al., 2014). Gervais and Wilson (2005) reported empirical evidence detailing the evolutionary path of laughter back 7 million years. Laughter is an important form of non-verbal communication that occurs in all cultures (Wild et al., 2003). Wilkins & Eisenbaum (2009), explored the healing power of laughter and discovered it serves as an effective coping mechanism while combatting stress, boosting the immunity, reducing pain, along with a lengthy list of physiological benefits that have implications to aid in the healing process. Research done by Mora-Ripoll (2010) revealed that laughter elevates mood, enhances cognitive functioning, promotes creativity, boosts productivity, and increases friendliness. It has also been found to have the capability to diffuse physical and emotional tension (Mora-Ripoll, 2013, 2017). Manninen et al. (2017) concluded that laughter causes the release of endogenous opioid (endorphins), which creates a calming effect, alleviating stress. Laughter facilitates an adaptive response by creating psychological distance from anything that can be interpreted as a distress, thereby improving psychological function in times of strife (Martin & Lefcourt, 1983). Laughter was found to be associated with the feelings of well-being and heightened affect, with the release of endorphins (Bahari & Lorica, 2019).

Laughter is rapidly becoming the new up and coming scientific intervention for individuals in crisis, treatment, and facing times of adversity (Martin et al., 1993). Considering mortality, methods have been implemented in order to help reduce the risks of prolonged
exposure to stress (Beutler et al, 2010). Laughter allows for an overall perusal of the nature of the problem, allows individual to take a step back and reevaluate the situation and look at it objectively without making rash decisions, thereby increasing the effectiveness of the problem-solving mechanisms internally and externally (Carver et al., 1989). Kim et al. (2015), discovered that laughter reduced anxiety, depression, and stress among breast cancer patients after a single session. It has been scientifically proven beneficial in a multitude of areas such as social, psychological, physiological, spiritual, and improved quality of life, with limited adverse effects (van der Wal & Kok, 2019). Kuiper et al. (1995) provided empirical support in the area of cognitive appraisals, (a human thought process that interprets new situations) in which an individual may make for any variety of situation and events that they may encounter. Laughter aids in the area of assisting in a wide variety of life circumstances and situations in a more positive, growth-oriented fashion (Van Ramshort, 2017). It provides an individual the ability to undo the effects of negative emotions and contribute to their well-being by increasing psychological resilience (Fredrickson, 2001). Empirical evidence revealed the health benefits of positive emotions created by laughter (Tugade et al, 2004; Hatzipapas et al. 2017), with the researchers encouraging future research looking into laughter as a self-care technique and low cost intervention to be used to counter workplace stress.

**Forms of Laughter**

*Voiced/Unvoiced Laughter*

Bachorowshi & Owren (2004), defined the linguistic qualities of laughter in terms of voiced and unvoiced. Coining voiced laughter as the production of regular vibrations from the vocal folds, emitting a tonal, vowel-like sound. Followed by unvoiced laughter, similar in nature
to voiced laughter, however, do not have the steady rhythmic vocal-fold vibrations and resonate as grunts and snorts primarily from the nasal cavity.

**Laughter Cascades/Laughter Waves**

An anomaly which occurs when individuals are laughing, and participants contribute to the laughter without necessarily having the knowledge as to why the laughter is transpiring. This sparks further laughter and the continuance of laughter in unison (Trouvain, 2003).

**Reciprocal Laughter**

Reciprocal laughter is the act of laughing together. A social phenomenon which strengthens affiliations, in-group alliances, and emotional amalgamation. (Sully, 1902).

**Shared Laughter**

Simultaneous laughter between two or more people. Shared laughter fosters group unification (Coates, 2007), working as a mechanism in social bonding associated with building rapport (Adelsward & Oberg, 1998). In a study conducted by Kangasharju and Nikko (2016), laughter in workplace meetings successfully released tension during difficult situations and increased cooperative interactions.

**Laughter Interventions**

**Laughter Yoga**

Founded by Madan Kataria in 1995, with the objective to get people to laugh for no reason, combined with simple yoga breathing techniques while relieving stress, boosting immunity, fighting depression and evolving individuals into more positive thinkers. At a national laughter yoga conference, Kataria (2020) stated, "When you start laughing, your chemistry changes, your physiology changes, your chances to experience happiness are much greater," further stating that, "Laughter Yoga is nothing more than prepping the body and mind for
happiness” (R. Rivest, Certified Laughter Leader Workshop, November 16, 2015). Scientific research revealed there to be significance in implementation of laughter yoga in workplace settings as it relates to reduced blood pressure and stress levels (Priya, 2016), increase in self-efficacy (Beckman et al., 2007), inverse associations with cardiovascular disease onset (Hayashi et al., 2016), and reduction in burnout (Shattla et al., 2019).

**Workplace Laughter Groups**

Laughter work groups improve efficacy, connects and bonds, breaks down barriers, diffuses conflict, increases feeling of safety, creates a positive working environment, and improves health and wellness (Kataria, 2020).

**Laughter and Maslow**

Individual’s struggling to meet the basic foundational needs in Maslow’s hierarchy pyramid, encounter a psychological barrier preventing them from participating in programs aimed at addressing and satisfying their needs. This barrier impairs their ability to achieve higher level needs as proposed by Maslow (Gorman, 2010). Laughter is a non-invasive alternative method for reducing stress, anxiety, and symptoms of depression. The physiological and psychological effects are scientifically proven to improve quality of life (Yim, 2016).

**Summary**

This study aimed at increasing the knowledge base as it relates to increased job satisfaction by utilizing the daily sound system to air pulses of laughter as an effective intervention to job stress. Laughter has been scientifically proven to be beneficial to health and wellbeing. When an environment is altered to incorporate and encourage laughter, laughter will naturally occur, and an environment of levity is created.
Chapter 3: Research and Methodology

Although workplace interventions and laughter have been scientifically proven to assist in the relief of stress and overall health and wellbeing, participation in these interventions remains an issue (Gonot-Schoupinsky & Garip, 2018; Martin & Kuiper, 2016). This study intended to examine the effects of laughter in the natural working environment on overall job satisfaction ratings.

Previous Research

Extant data was obtained from a company that conducted an in-house study investigating the effects that intermittent pulses of laughter had on their bottom-line profit margin for a period of two years. The company randomly selected ten locations. The company opted for a small percentage of their total chain (10 location out of total 116), so as not to affect profit margin in the event the research had a negative impact. Five of those locations were used as the experimental group and compared to the five other randomly selected locations to serve as the control group. Quarterly and annual sales were compared which revealed a sizeable increase in sales and customer morale in the locations that aired the pulses of laughter throughout the normal operating hours.

Participants

This study focused on an employee-owned independent retail chain operating across the midwestern United States in which the employees, upon hire, signed an agreement to submit a job satisfaction survey at the time of their quarterly review. Because the purpose of this study is to examine the effect of laughter on job satisfaction ratings with employees in the natural working environment, the researcher sought a company that had a long-standing history of utilizing some form of job satisfaction rating as a common business practice. All participants
were kept naïve to the experiment, reporting to work as usual and completing the quarterly job satisfaction surveys as required. In addition, for the measurement of job satisfaction to be meaningful, it was determined that participants meet minimum criteria of full-time status with the company with no employment gaps, apart from vacation time, and successful completion of the job satisfaction survey the duration of the study (2016-2019) for this employer. The principal sample is limited to those who met the minimum criteria and sustained employment through the first two quarters of 2019. Using Cohen’s (1988, 1992) power of sample size theory and equations to calculate the number of participants needed to get statistically significant results and provide the margin of error based on that sample size, G*Power software (Faul et al., 2007) was used. Cohen (1992) contends that the power of a sample size needs to be considered to ensure there is enough represented in order to calculate effect versus error. An a priori analysis using G*Power software based on a population size of 20,000, a margin of error of .05 and confidence level of 95%, determined the required sample size to be 377 to rule out probability of errors.

**Extant Data**

A data sharing agreement was signed between the researcher and the CEO of the company. The researcher agreed that data would be kept secure and returned to the rightful owner upon completion of analysis and dissemination of findings, with the researcher being granted publication rights and privilege on any findings or conclusions derived from the analysis of data obtained from the data provider. The data set was in the format of an excel document on a flash drive provided by the human resource director of the company. This data set was archival and had no identifiers and contained the results of each participants demographic responses and summated Job Satisfaction Scores over the course of three years, January 2016 – December 2019. The University of Arkansas, Office of Research Compliance Institutional Review Board,
issued exemption status as the study does not meet the definition of research involving human test subjects according to federal regulations 45 CFR 46.102 (e)(1). (Appendix A).

**Research Design**

The study employed a randomized, double-blind quasi-experimental time series with intact groups. Analysis completed with Multivariate Repeated Measures ANOVA (MANOVA) with one between and 4 within conditions (2 pretest and 2 posttest) with post-study unblinding based on extant data provided by the company.

Over the course of two years, the company’s Human Resource Department played five second .mp4 based laughter pulses shuffled in between music tracks over the company sound system during regular business hours at the selected experimental locations, while the remaining locations continued to hear the standard music tracks. The internet-based Job Satisfaction Survey (JSS) was distributed to employees during their quarterly review. Completion was voluntary and required to be completed within a two-week period (10 business days). Informed consent was taken to be the return of the survey. For the tests, the hypotheses are one-sided, and the significance level was set at $p < 0.05$. IBM SPSS Statistics 26.0 for Windows was used for statistical analysis.

**Instruments**

**Sound System.**

A 70-volt Commercial Distributed Audio System with single unit volume control. (A commercial system designed for distributing background music plus paging). The system has multiple sound source capability (wireless Bluetooth, digital, recorded music) distributed throughout multiple zones within each retail store. Volume was set between 55-64 dB, not to exceed 64 dB to meet scientifically proven optimal decibel level.
Pulses of Laughter

Digitally mastered pulses of voiced and unvoiced laughter. Each pulse, five seconds in length, varied in intensity and overtness, ranging from weak to strong. Examples include unvoiced (snort, snicker, and grunt), voiced (the typical ha-ha-ha chuckle), and baby laughter.

Job Satisfaction Survey (JSS)

The Job Satisfaction Survey (JSS; Spector, 1985) was administered every quarter during the company’s quarterly reviews between January 2016 and December 2018. The JSS assesses 36-items Likert type statements (9 subscales each consisting of 4-line items) based on job satisfaction which is applicable specifically to public, human service, and nonprofit sector organizations. These items are pay, promotion, supervision, benefits, rewards, conditions, coworkers, nature of work, and communication. Example items are, “I do not feel that the work I do is appreciated,” and “I sometimes feel my job is meaningless” (1 = disagree very much, 6 = agree very much). The statement varies between positive and negative direction indicating job satisfaction or job dissatisfaction, with the negative questions scores being reversed: score of 1 becomes a 6, 2 becomes a 5, etc. (Spector, 1985, Spector, 1997). The JSS measures job satisfaction on a low to high continuum with two approaches for scoring, normative or absolute. While the normative approach uses a sample in comparison to established norms, the absolute approach utilizes a set cut off score to measure dissatisfaction, ambivalence, or satisfaction. This study implemented the absolute approach.

For an effective measure, baseline was established by utilizing the pre-test analysis collected from the 6 months prior to the start of the study. January 2016 to March 2016 representing Quarter 1/Pretest 1 and April 2016 to June 2016 representing Quarter 2/Pretest 2, with the study conducted the beginning of July 2016 through June 2019. July 2019 through
September 2019 reflected the Quarter 3/Posttest 1 scores and October 2019 through December 2019 personifying the scores of Quarter 4/Posttest 2, completing the sample provided.

**Validity and Reliability**

This instrument provides competent reliability, validity, and normative data measurements. The researcher is required to ensure that all measurements obtained verily weigh what they plan to measure (Frankfort-Nachmias et al., 2014). Frequently used to assess the reliability for continuous measures is the Cronbach’s alpha. Ranging from 0 to 1, with a greater internal consistency reliability the closer Cronbach’s alpha coefficient is to 1.0. (Field, 2018). The summated rating scale (total of all facets) of the JSS demonstrated good internal consistency reliability with Cronbach’s alpha of .90.

**Variable list**

**Independent Variable**

Two groups: control group (standard music during normal working hours) and treatment group (Intermittent pulses of laughter between song tracks).

**Dependent Variable**

Quarterly JSS (Cumulative scores of all nine subscale measures (36-items) of the Job Satisfaction Survey each quarter to include eight quarters of study and two quarters post-test (posttest 1, posttest 2), compared to baseline scores of six months prior (pretest 1, pretest 2), within and between groups.

The within subject variables: Job Satisfaction cumulative scores of four quarters (pretest1, pretest 2, posttest 1, and posttest 2). The between subject variables: intermittent laughter pulses or none.
Procedures

The first procedure included selecting the locations of in-tact groups to use as the study sample which will include the employees of ten randomly selected employee owned midwestern retail chain stores of their total 116 in operation, each operating out of an average 48,000 square foot retail space. Each employee-owned chain store is a “cookie cutter” model, geographically there is no location bias, as the company has locations in both urban and rural settings. With the financial demographic status ranging from low to high with locations disbursed across six midwestern states in cities ranging in population from 2,122 to 425,403.

The human resource department for the employer randomly selected 10 locations of their total operating venues. Those ten locations were randomly assigned to either the control group or experimental group, for five location in total for each sample. Once two samples were identified: Sample 1, the experimental group, consisted of those employees that were employed at one of the locations where pulses of laughter were aired over the sound system between songs during regular business hours. Sample 2, the control group, contained the five other locations where no changes had been made and it was business as usual, with the sound system playing the regular music, during regular business hours. The experimenter was blind to the locations. The second procedure consisted of playing pulses of laughter over the commercial sound system during normal business hours at all experimental group locations. The company conducted business as usual and performed standard quarterly reviews in which all employees completed their JSS, per company policy and turned it in within 10 business days of their review. The third procedure involved the analyzing of the data sets which consisted of scores from the quarterly JSS’s collected during the annual quarterly reviews in comparison to the baseline that was established from the pretest analysis collected from the 6 months prior to start of the study.
Data Collection:

Per company policy, general demographics and the Job Satisfaction Survey (JSS, Spector, 1994) was administered, via an internet-based portal, to all employees who were encouraged by the administration of the company to complete and submit within 10 business days of each of their quarterly reviews. A company representative provided the extant data which was kept on an encrypted external hard drive in a locked file cabinet when not in use. The employer had stripped all identifiers to protect the identity of all participants. The data was prepared for analysis with the removal of any data that did not fit the protocol or was incomplete. Any employee that had not met minimum criteria was removed from the data set. The demographic information collected included sex, age, race/ethnicity, relationship status, and position within the company (Appendix B). Demographic information was given a numeric coding value. Sex was coded as Male = 2, Female =2. Ethnicity was coded as: Caucasian/White = 1, Hispanic/Latino = 2, African American/Black = 3, Native American/American Indian = 4, Asian/Pacific Islander = 5. Relationship status was coded as: Single = 1, Married = 2, Widowed = 3, Divorced = 4, and Separated = 5. Finally, Position within the company was coded as: Clerk/General Laborer = 1, Management = 2, Human Resources/Administration = 3, Maintenance = 4, and Warehouse = 5.

For scoring, the absolute approach was implemented which uses summed scores of the 36-item survey translated into cutoff scores ranging between 36-216, with a set value range representing each level of satisfaction. Scores between 144-216 represent satisfaction, 108-144 represent ambivalence and a score between 36-108 represents dissatisfaction. For the purpose of this study, the research hypothesis used the change in the JSS (from pretest (baseline) to posttest) as the dependent measure.
Research Question

Do intermittent pulses of laughter played over an intercom sound system throughout the normal workday have a positive impact on employee job satisfaction ratings in a treatment group compared to a control group?

Hypothesis

Hypothesis: Job satisfaction will be positively related to intermittent pulses of laughter played over intercom sound system in the treatment group.

Null Hypothesis

H_{0}: Intermittent pulses of laughter will not have an effect on job satisfaction in either the treatment group or the control group.

Preliminary Analysis

Prior to the main analysis, variables of interest were examined through IBM SPSS 26.0 program for accuracy of data entry, missing values, the normality of distributions, and multivariate outliers. Of the total 924 total participants provided, 379 were removed as they failed to meet research criteria (full-time status with the company with no employment gaps, apart from vacation time, and successful completion of the job satisfaction survey the duration of the study) resulting in 545 participants with 6,540 scores for the main analysis. Based off the number of participants (N=545) and a confidence level of 95%, the margin of error is 4.14% (G*Power, Faul, et al., 2007). For this study to effectively compare the outcomes for the two groups, a baseline was established. As previously mentioned, the method in which baseline was established was done by taking the summated scores of each group for Quarter 1 (January 2016 – March 2016) and Quarter 2 (April 2016 to June 2016). Notably, baseline equivalence was determined. In order to determine the effectiveness of laughter pulses on job satisfaction scores,
the researcher compared the mean change from baseline to posttest 1 and posttest 2 (January 2016 to March 2016 representing Quarter 1/Pretest 2 and April 2016 to June 2016 representing Quarter 2/Pretest 2).

**Reliability**

The Job Satisfaction Survey was found to be highly reliable (36 items; \( \alpha = .90 \)). Similarly, Spector (1997) reported an alpha coefficient of .91 for the JSS total for American retail norms.

**Descriptive Statistics**

Of the participants included in the analysis, 360 were females (66.1%) and 185 of them were males (33.9%). Table 1 displays the sex as it pertains to the standard music (control) or laughter (experimental) group.

**Table 1: Demographics of Participants by Group and Sex**

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Music</td>
<td>91</td>
<td>182</td>
<td>273</td>
</tr>
<tr>
<td>Laughter</td>
<td>94</td>
<td>178</td>
<td>272</td>
</tr>
<tr>
<td>N</td>
<td>185</td>
<td>360</td>
<td>545</td>
</tr>
</tbody>
</table>

The age ranges were grouped as follows: Ages 18-24, with the control group (Standard Music) having 35 participants (6.4%) and the experimental group containing 40 participants (7.4%), representing a collective 13.8%. Ages 25-34, with the control group (Standard Music) having 92 participants (16.7%) and the experimental group containing 109 participants (20.2%), representing a collective 36.9%. Ages 35-44, with the control group (Standard Music) having 71 participants (12.8%) and the experimental group containing 68 participants (12.6%), representing
a collective 25.5%. Ages 45-54, with the control group (Standard Music) having 56 participants (10.3%) and the experimental group containing 42 participants (7.7%), representing a collective 18%. Ages 55+, with the control group (Standard Music) having 19 participants (3.5%) and the experimental group containing 13 participants (2.4%), representing a collective 5.9%.

Both groups were comprised of mostly White/Caucasians (72.3%) of which the control group (Standard Music) had 186 participants (33.8%) and the experimental group contained 208 participants (38.5%); 16% Hispanic/Latino of which the control group (Standard Music) had 41 participants (7.5%) and the experimental group contained 46 participants (8.5%); 7.7% Black/African American of which the control group (Standard Music) had 29 participants (5.2%) and the experimental group contained 13 participants (2.4%); 2.2% Native American/American Indian of which the control group (Standard Music) had 8 participants (1.5%) and the experimental group contained 4 participants (.7%); and finally 1.8% Asian/Pacific Islander of which the control group (Standard Music) had 9 participants (1.7%) and the experimental group contained 1 participant (.2%). Table 2 reflects participant N by group and ethnicity.

**Table 2: Demographics of Participants by Group and Ethnicity**

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Standard Music</th>
<th>Laughter</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>186</td>
<td>208</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>41</td>
<td>46</td>
</tr>
<tr>
<td>Black/African American</td>
<td>29</td>
<td>13</td>
</tr>
<tr>
<td>Native American/American Indian</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>N</td>
<td>273</td>
<td>272</td>
</tr>
</tbody>
</table>
Relationship Status was broken down into categories of single, married/domestic partnership, widowed, divorced, and separated. Of the participants in this study 49.4% reported being single of which the control group (Standard Music) contained 129 participants (23.5%) and the experimental group contained 140 participants (25.9%); 30.1% married/domestic partnership of which the control group (Standard Music) contained 90 participants (16.6%) and the experimental group contained 74 participants (13.7%); 1.5% widowed of which the control group (Standard Music) contained 8 participants (1.4%) and the experimental group contained 0 participants; 11.9% divorced of which the control group (Standard Music) contained 31 participants (5.7%) and the experimental group contained 34 participants (6.3%); and 7.2% separated of which the control group (Standard Music) contained 15 participants (2.8%) and the experimental group contained 24 participants (4.4%).

The position within the company were as follows: clerk/general laborer (52.1%) with the control group (Standard Music) containing 139 participants (25.2%) with the experimental group having 145 (26.8%); management (15.2%) with the control group (Standard Music) containing 50 participants (9.0%) with the experimental group having 33 (6.1%); human resources/administration (11.4%) with the control group (Standard Music) containing 30 participants (5.5%) with the experimental group having 32 (5.9%); maintenance (11.9%) with the control group (Standard Music) containing 30 participants (5.5%) with the experimental group having 35 (6.5%); and warehouse (9.4%) with the control group (Standard Music) containing 24 participants (4.4%) with the experimental group having 27 (5.0%). Table 3 reflects the demographics of the position participants reported to have within the company in relation to the group they participated in.
Table 3: *Participants position within company*

<table>
<thead>
<tr>
<th>Position</th>
<th>Standard Music</th>
<th>Laughter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clerk/General Laborer</td>
<td>139</td>
<td>145</td>
</tr>
<tr>
<td>Management</td>
<td>50</td>
<td>33</td>
</tr>
<tr>
<td>Human Resources/Administration</td>
<td>30</td>
<td>32</td>
</tr>
<tr>
<td>Maintenance</td>
<td>30</td>
<td>35</td>
</tr>
<tr>
<td>Warehouse</td>
<td>24</td>
<td>27</td>
</tr>
<tr>
<td>N=</td>
<td>273</td>
<td>272</td>
</tr>
</tbody>
</table>

**Summary**

This quantitative research study utilized the JSS to investigate the likelihood that pulses of audible laughter shuffled between every day music aired throughout the normal working day will influence the job satisfaction scores of full-time employees of an employee-owned retail chain. Three procedures were used to determine this. The first procedure was to determine eligible participants who met the criteria to participate in the study, with the second procedure consisting of pulses of laughter being aired between music tracks over the business sound system. The final procedure measured the extent to which the laughter had an impact on job satisfaction ratings during each quarterly review, comparing within and between groups. Upon approval from the University of Arkansas Institutional Review Board, the data was collected. All data remained anonymous and was analyzed with IBM SPSS 26.0. In Chapter 4, based on the stated hypothesis, I will present the data analysis.
CHAPTER 4: RESULTS

This chapter’s sole purpose is to provide the results of the study and determine if supraliminal pulses of laughter might contribute to the counseling field by serving as a supplement to Human Resources and Employee Assistance Programs. The researcher sought to determine whether pulses of laughter heard throughout the normal working day had a propensity to increase scores on job satisfaction ratings, by using the Job Satisfaction Survey (JSS) to determine each employee’s job satisfaction rating at regular intervals. The JSS consists of 36 questions measured on a Likert-scale using 6-point agree-disagree response choices. The absolute approach was used with scores ranging from 36 to 216 to determine if the participant rated satisfied, dissatisfied, or ambivalent based on their summated score.

Extant data was provided along with primary demographic information to further assist the researcher in understanding the population. The participants’ responses to the JSS provided data necessary to address the corresponding research question and hypothesis:

Statistical Analysis

A multivariate analysis of variance with repeated measures and appropriate parametric analyses was then conducted to describe any relationships between the dependent and independent variables. In order to effectively compare outcomes for the two groups, posttest analysis comprised of the two quarters (6 months) following the completion of the experiment, labeled posttest 1 and posttest 2 were compared to the baseline scores of pretest 1 and pretest 2 for each group. The absolute approach was used in analysis with the summed score of each quarterly Job Satisfaction Survey with scores ranging from 36 to 216 representing either satisfied, ambivalent, or dissatisfied. SPSS software was first used to evaluate for the assumption of normality, homoscedasticity, and linearity (Mertler & Vannatta Reinhart, 2017). Per SPSS
software, there was an absence of multicollinearity based on the coefficients output and a scatterplot matrix confirmed good linearity. However, there was a significant departure from normality based on results of the Shapiro-Wilk test (Table 4).

Table 4: Test of Normality Assumption

<table>
<thead>
<tr>
<th>Tests of Normality</th>
<th>Kolmogorov-Smirnov(^a)</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
<td>Df</td>
</tr>
<tr>
<td>Pretest 1</td>
<td>.105</td>
<td>545</td>
</tr>
<tr>
<td>Pretest 2</td>
<td>.102</td>
<td>545</td>
</tr>
<tr>
<td>Posttest 1</td>
<td>.166</td>
<td>545</td>
</tr>
<tr>
<td>Posttest 2</td>
<td>.185</td>
<td>545</td>
</tr>
</tbody>
</table>

\(^a\)Lilliefors Significance Correction

The Shapiro-Wilk test results revealed a significant deviation from normal distribution. Pretest 1, \(W(545) = .97, p = .000\); Pretest 2, \(W(545) = .98, p = .000\); Posttest 1, \(W(545) = .91, p = .000\); and Posttest 2, \(W(545) = .90, p = .000\). The researcher rejects the null hypothesis of equal population variances as the Levine test output revealed a violation of homogeneity of variance assumptions. The Levene’s test showed that the variances were not equal at pretest 1, \(F(1,543) = 5.99, p = .015\); posttest 1, \(F(1, 543) = 54.35, p = .000\); and posttest 2, \(F(1, 543) = 39.98, p = .000\). The researcher did not reject the null hypothesis of equal population variances for pretest 2 with the Levene’s test showing an equal variance, \(F(1, 543) = 3.01, p = .083\). Hotelling’s trace was used with such violations as it is known for being robust to violations of these assumptions.

To investigate the relationship between laughter and Job Satisfaction Scores, the researcher conducted a Repeated Measures Multivariate Analysis of Variance (MANOVA) with quarterly cumulative Job Satisfaction Survey absolute scores as the within subject factor and intermittent pulses of laughter (laughter and standard music) as the between subjects’ factor (Pre-test 1, pre-test 2, post-test 1, post-test 2). The dependent variable used was the summated scores of the job satisfaction survey (JSS). The independent variable was the use of laughter pulses.
shuffled between standard background music or standard background music. The baseline
established with the average score of the Job Satisfaction for the standard music group were as
follows: Survey Pretest 1 ($M = 131.63, SD = 5.91$) and survey Pretest 2 ($M = 132.74, SD = 5.94$).
These scores were comparable to the average score of the Job Satisfaction for the laughter group:
Survey Pretest 1 ($M = 133.84, SD = 4.80$) and survey Pretest 2 ($M = 134.59, SD = 5.17$). Posttest
summated scores were used in comparison with the established baseline. For within subject
comparison the established baseline composed of the average score of the Job Satisfaction for the
standard music group survey Pretest 1 ($M = 131.63, SD = 5.91$) and survey Pretest 2 ($M =
132.74, SD = 5.94$) compared to standard music group survey Posttest 1 ($M = 134.94, SD = 5.13$)
and survey Posttest 2 ($M = 135.30, SD = 4.96$). For the laughter group within subject comparison
the average score of the Job Satisfaction for the laughter group survey Pretest 1 ($M = 133.84, SD
= 4.80$) and survey Pretest 2 ($M = 134.59, SD = 5.17$) were compared to the laughter group
survey Posttest 1 ($M = 165.90, SD = 8.64$) and Posttest 2 ($M = 166.12, SD = 7.76$). For between
subject comparison once again the established baseline from pretest 1 and pretest 2 were used.

The Job Satisfaction Survey scores were significantly higher post-test 1 and post-test 2
for the laughter group than the control group. As predicted, the MANOVA of JSS scores by
group (experimental laughter group and control standard music group) revealed effects for
laughter, on Job satisfaction scores pre-test 1 and pre-test 2 compared to post-test 1 and post-test
2. The Main effect of Pretest 1 / 2 and Posttest 1 / 2 revealed statistical significance (Hotelling’s
Trace = 5.431, $F(3, 541) = 979, p = .000$, partial $\eta^2 = .844$). The repeated measures MANOVA
was significant, $F(3,541) = 664.965, p < .05$; Hotelling’s Trace = 3.687, $F(3, 541) = 665, p =
.000$, partial $\eta^2 = .787$ as Table 5 depicts.
Table 5: *The Hotelling's Trace Multivariate Results*

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
<th>F</th>
<th>Hypothesis df</th>
<th>Error df</th>
<th>Sig.</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotelling's Trace</td>
<td>3.687</td>
<td>664.965&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.000</td>
<td>541.000</td>
<td>0.00</td>
<td>0.787</td>
</tr>
</tbody>
</table>

Results reveal Job Satisfaction for the standard music group survey Pretest 1 ($M = 131.63, SD = 5.91$) and survey Pretest 2 ($M = 132.74, SD = 5.94$) compared to laughter group survey Posttest 1 ($M = 165.90, SD = 8.64$) and Posttest 2 ($M = 166.12, SD = 7.76$). Figure 2 provides a visual plot of the group Means at each data point.

![Estimated Marginal Means of MEASURE_1](image)

**Figure 2**

*Estimated Marginal Means at 4 points (Pre-test1, Pre-test 2, Post-test 1, Post-test2)*
Table 6 depicts the Mean and Standard Deviation of both groups at each unit of measurement, Pretest 1, Pretest 2, Posttest 1 and Posttest 2.

**Table 6: Mean and Standard Deviation**

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Music</td>
<td>131.6374</td>
<td>5.91704</td>
<td>273</td>
</tr>
<tr>
<td>Laughter</td>
<td>133.8493</td>
<td>4.80499</td>
<td>272</td>
</tr>
<tr>
<td>Total</td>
<td>132.7413</td>
<td>5.49842</td>
<td>545</td>
</tr>
<tr>
<td>Pretest 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Music</td>
<td>132.7436</td>
<td>5.94090</td>
<td>273</td>
</tr>
<tr>
<td>Laughter</td>
<td>134.5919</td>
<td>5.17505</td>
<td>272</td>
</tr>
<tr>
<td>Total</td>
<td>133.6661</td>
<td>5.64306</td>
<td>545</td>
</tr>
<tr>
<td>Posttest 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Music</td>
<td>134.9451</td>
<td>5.13572</td>
<td>273</td>
</tr>
<tr>
<td>Laughter</td>
<td>165.9007</td>
<td>8.64219</td>
<td>272</td>
</tr>
<tr>
<td>Total</td>
<td>150.3945</td>
<td>17.04105</td>
<td>545</td>
</tr>
<tr>
<td>Posttest 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Music</td>
<td>135.3077</td>
<td>4.96464</td>
<td>273</td>
</tr>
<tr>
<td>Laughter</td>
<td>166.1250</td>
<td>7.76494</td>
<td>272</td>
</tr>
<tr>
<td>Total</td>
<td>150.6881</td>
<td>16.73984</td>
<td>545</td>
</tr>
</tbody>
</table>

To further test the hypothesis the researcher ran a MANOVA off JSS Scores by group (experimental laughter group and control standard music group) based on each of the 12 scores (pre-test 1 through the 8 quarters of the study to post-test 2). Job Satisfaction Scores were significantly higher for the laughter group than the control group at each consecutive quarter following the initial two pre-treatments. A main effect was found for laughter, on Job quarterly satisfaction scores, $F(11,533) = 200.532, p < .05$; Hotelling-Lawly Trace = 5.919, partial $\eta^2 = .855$. Figure 3 provides a visual plot of the results.
Chapter 4 presented statistical analysis addressing the research question and its affiliated hypothesis. The results of the statistical test revealed that there was in fact a significant relationship between pulses of laughter aired over the company sound system throughout the day and Job Satisfaction Survey scores. The statistical analysis supported the hypothesis that job satisfaction will be positively related to intermittent pulses of laughter played over the company sound system throughout the normal working day in the treatment group. In Chapter 5, I will discuss the significance of these results and further recommendations.

Figure 3
Estimated Marginal Means at 12 points (Pre-test1 through Post-test2)
Chapter 5: Discussion

This study describes the impact and detrimental health risks of job stress on employees and the role that the working environment, workplace interventions, and laughter play in the reduction of stress and improvement of overall job satisfaction. Widespread studies have examined workplace interventions and employees’ perceptions of those stress-reduction measures (Bakhuys Roozeboom et al., 2020; Pignata et al., 2017; Pignata & Winefield, 2015). Previous research on workplace interventions revealed that they are effective if changes are made on an organizational level opposed to an individual level (Bhui et al., 2016; Semmer, 2007). Cutler (2004) stated, “Individuals are products of their environment and thus one cannot change the individual without changing the community in which he or she lives” (para. 4). Joan Burton (2010), temporary advisor to the World Health Organization, defined a healthy workplace as:

One in which workers and managers collaborate to use a continual improvement process to protect and promote the health, safety and well-being of all workers and the sustainability of the workplace by considering the following, based on identified needs: • health and safety concerns in the physical work environment; • health, safety and well-being concerns in the psychosocial work environment including organization of work and workplace culture; • personal health resources in the workplace; • ways of participating in the community to improve the health of workers, their families and other members of the community (p. 16).

The number of organizations that are improving their organizational climate and culture; implementing interventions and utilizing Employee Assistance Programs is on the rise. However, reports of high attrition and low participation have become a relevant factor in the wage against job stress and overall job satisfaction (Dale et al., 2019). While much has been written about workplace interventions, there is limited research on the effectiveness of non-participatory interventions such as priming with supraliminal laughter. The present chapter summarizes the
significant findings, implications, and recommendations for future research in the field of mental health counseling, human resource management and employee assistance programs.

The main objective of this study was to determine if supraliminal laughter played throughout the course of a normal working day had any influence on employee job satisfaction ratings over the course of three years. This study was conducted from extant archival data provided in agreement to the researcher by the parent company who owns the rights to the data.

The study focused on regular full-time employees of an employee-owned chain of retail grocery stores located throughout midwestern United States. The JSS was administered to assess the level of job satisfaction. A quasi-experimental two group pretest/pretest, posttest/posttest design, while implementing random sampling of intact groups was adopted for the study. Two groups were used, the experimental group consisted of five store locations with a total of 272 total participants, and the control group, also consisting of five store locations and 273 total participants with a grand total of 6,540 quarterly summated scores. For select locations, laughter was aired over the company sound system for two years and each quarter, regardless of location, every employee would complete the routine Job Satisfaction Survey (JSS: Spector, 1985) following their quarterly review. The absolute scoring method was used where summed scores for the 36-item inventory can be translated into measurable cutoffs. Pre-test1 and pre-test2 were used to establish baseline for a level of comparison for each group. A 1 between (Laughter) x 4 within (Job Satisfaction) Repeated Measures Multivariate Analysis of Variance (MANOVA) was conducted with quarterly cumulative Job Satisfaction Survey scores as the within subject factor with intermittent laughter pulses (laughter pulses and standard music) as the between subjects’ factor (Pre-test1, pre-test2, post-test 1, post-test 2).
Research Question

Do intermittent pulses of laughter played over intercom sound system throughout the normal workday have a positive impact on employee job satisfaction ratings in a treatment group compared to a control group?

Major findings

The results of the study have shown that hearing laughter throughout the normal working day increased job satisfaction ratings consistently across the span of the study in comparison to the control group who maintained a consistent average. As previously mentioned, this study was conducted with extant data collected between the months of January 2016 through December 2019. Pretest baseline was established with the first two quarters of 2016 (January – June 2016) with the actual study being implemented between the months of July 2016 and June 2019. Posttest scores were collected between the months of July 2019 and December 2019 and used to compare with the pretest scores. Both the standard music group and the laughter group had comparable baseline measures with the score for the standard music group averaging at 132.85 and the laughter group averaging at 134.21. These scores fall within the range of ambivalence for both groups. According to Spector (1992),

Translated into the summed scores, for the 36-item total where possible scores range from 36 to 216, the ranges are 36 to 108 for dissatisfaction, 144 to 216 for satisfaction, and between 108 and 144 for ambivalent (para. 3).

In comparing the established baseline with the posttest scores of each group, the results revealed that the standard music group maintained a consistent average of 133.47 (ambivalent) throughout the study with the final posttest average score coming in at 135.31. However, the laughter group had an established baseline average of 133.85 with the study revealing an increase in JSS absolute summated scores to an average of 166.012. This result took this group from a rating of
ambivalence in job satisfaction to satisfaction as early as six months into the study (Q4, Dec 2016). Figure 4 provides a visual of each group summed score mean at pretest 1, pretest 2, pretest 3 and pretest 4 and their placement within the cutoff score categories of dissatisfied, ambivalent, and satisfied.

![Figure 4. Summated score rankings.](image)

The summated scores for the laughter group entered the satisfied range with an average score of 150.90 continuing to climb each quarter consecutively with a final posttest average score of 166.13 (See Appendix D), while the standard music group remained consistent within the ambivalent range throughout the study with an average 133.66. Ambivalence can be unpleasant as it is the result of an individual experiencing two opposing feelings simultaneously. Jonas and Ziegler (1987) stated that ambivalence is “the simultaneous existence of positive and
negative beliefs or emotions with regard to the same object in an individual’s attitude base” (p. 31).

**Limitations**

The current study had numerous limitations, which are briefly recognized here and will be outlined in more detail below. Limitations included the cumulative, summated scores, the company policy, the sampling procedure, and the study timeframe. The demographic labels could also be considered a limitation. The researcher could not rule out the possibility that there were any changes within the company during the time of the study that could be considered a possible extraneous variable. Additionally, while the Job Satisfaction Survey is an effective instrument to measure overall satisfaction and applicable to all organizations, and comes in a variety of difference translations, however the researcher did not have control over ensuring the appropriate transcribed version was used and thereby may also be considered a limitation.

Using the cumulative, summated scores for an absolute value is an effective means of measuring overall total job satisfaction. However, the researcher was not provided the Subscale Means for each of the nine facets (pay, promotion, supervision, fringe benefits, contingent rewards, operating procedures, coworkers, nature of work, and communication) to further assess employee attitudes based on specific facets of the job. Company policy and established standards required each employee to complete the JSS at the end of each quarter following their quarterly review. The researcher had no control over the implementation of this policy or any of the incentives/sanctions that may have been associated with the compliance of the completion of the survey at each quarter. The sampling procedure is a potential limitation as well. The study’s ten randomly selected locations were selected by the administration of the company and only made up 8% of the entire chain. If the entire chain were used as the sample for this study as opposed to
the ten randomly selected, the results of this study may have provided greater insight. The demographic labels could also be considered a limitation.

The participant demographics form was beyond the researcher’s control and limited the study as there appeared to be minimal available options for sex identification, ethnicity, and affiliations with no opportunity to fill in “other” for a situation that may not have applied. The final limitation that needs to be addressed is the timeframe in which the study was conducted. Extant data was provided from a previously collected research project. The researcher could not account for any confounding variables that may have been a result of the specific timeframe selected such as weather, election year, or even the state of the economy. Reasoning behind this particular time frame was also not provided to the researcher.

**Recommendations**

This study paves the way for research involving other uses of laughter pulses as a prime for positive change. This research could also represent growth in the use of laughter pulses as a technique to initiate positive environmental change. For an intervention to have a long-term effect, the design of a study should not end with a control period, rather it should end with the intervention itself (Ray, 2015). While participants in the control group did not participate in an intervention, the researcher would have been interested to see if following the study, if the control group were provided the conditions the experimental group were if their scores would also show an increase within two quarters time as the experimental group had. This study can be replicated using the nine individual facets job facets (pay, promotion, supervision, fringe benefits, contingent rewards, operating procedures, coworkers, nature of work, and communication), to get a more thorough knowledge as to which areas of job satisfaction benefit the most from laughter. Future studies could also be conducted in different settings, across
multiple disciplines such as Industrial, office, warehouse, and school/college settings. Given the knowledge we have on individuals lack of participation to intervention programs provided by the companies in which they are employed, preventative measures such as supraliminal primes during the course of a normal working day may direct job stress and overall job satisfaction in a more positive direction. Future studies could benefit from the exploration of this topic as it relates to sexual identity, ethnicity, marital status, and position within the company. As laughter has the innate ability to solve transition issues, reduce stress and anxiety, build confidence, competence, and relationships, it is strongly recommended that future research investigate the school-based setting.

**Implications**

The global purpose of this research is to contribute to the growing body of literary works that looks at employee job satisfaction and laughter as a priming technique as a potential non-participatory intervention approach.

**Counseling Education**

Counselor educators (CE’s) are the catalysts for change and have the responsibility of evaluating, assessing, and promoting the personal growth of future counselors according to the Counsel for Accreditation of Counseling and Related Education Programs (CACREP, 2016). The standard was also set for counselor educators to “determine program curricula and to establish operational policies and procedures for the program” (CACREP, 2019, p. 7). Integrating education on the implementation of laughter primes into the curriculum to further increase the knowledge and practice has the potential to promote positive outcomes. Laughter generates conditions conducive to learning. (Garner, 2010).
CE’s serve in a variety of roles including (but not limited to) teachers, mentors, counselors, researchers, advocates, and leaders within the community. Some of those duties include modeling positive habits, creating healthy environments, and promoting self-care which sets the foundation for future counselors to be able to combat unprofessional behaviors that comes with counselor impairment (compassion fatigue, vicarious trauma, and burnout).

Laughter, as a priming agent, should be the focus of interventions that focus on stress and coping with stressful circumstances. Counselor educators have a responsibility in the promotion of wellbeing (Evers et al., 2006; Vischer, 2006). This includes addressing various environments to include the learning environment, working environment, and natural environment. Prevention rather than intervention appears to be more the goal within the counseling realm. Teaching the promotion and management of lowering stress and managing personal health options that tend to contribute to stress related maladies through simple low-cost alterations in the environment, may assist in alleviating an individual’s vulnerability to stress and improve mental health status of those afflicted. Counselor Educators are instrumental in the contribution to the culture of prevention and play a vital role in establishing an environment that contributes to experiential learning. Reflecting on the subject matter of this research, the researcher strongly encourages CE’s to systematically implement laughter pulses into the natural environment facilitating connection, stress relief, and feelings of satisfaction among student, client’s and fellow colleagues.

**Mental Health Practitioner**

While they may be in settings such as community health organizations, private practice, hospitals, or day treatment programs, the mental health practitioner is also actively involved in mediation activities, consultation, advocacy, and community outreach. Each of these listed could
benefit from the findings of this research. As the results indicate that the supraliminal laughter increases job satisfaction, while no participation was required, implementing the laughter tracks in areas where transitions, higher levels of stress, and lower levels of satisfaction are reported may be beneficial. Mental health practitioners have the ability to educate and advocate for change. That change may be an alteration in environmental factors to improve individual’s well-being to a more positive one. Mental health practitioners not only experience their own levels of stress, but more importantly are assisting others with finding a remedy to alleviate stress and a healthy way to cope, simultaneously. Laughter can be used as a form of grounding, a form of parlay to achieve a desired objective. Laughter does not need a joke or a reason. It is spontaneous and contagious with the sound of laughter being the critical stimulus for further laughter. Due to the preponderance of stress in the workplace and the ramifications it has on job satisfaction and overall wellbeing, it is imperative that counselors implement interventions that facilitate a positive environment. Changes to the environment, affirmative in nature, can forge a shift in motivation, compelling participation and sequentially producing positive outcomes (Forman & Moyers, 2019).

**Human Resource Management**

According to Kim et al. (2009), there is a strong correlation between employee creativity, job satisfaction, and perceived value as an organizational contributor. The human resource department plays a unique part and has a variety of roles within a company. One of those essential roles includes a commitment to the wellbeing of the employees by effectively maintaining and improving workplace safety and culture (LaFountaine et al., 2006). Research shows that laughter strengthens bonds, fosters a more positive environment, creating stronger relationships, according to research done by Whalen (2010). It also aids in establishing and

72
maintaining social structures (Dunbar & Schultz, 2010; O’Nions, et al., 2017; Suvilehto et al., 2015). Laughter has the potential to be a cost free, hands off, non-participatory intervention that occurs naturally once primed as the “go-to” in cognitive retrieval. Implementing written policies regarding the use of non-participatory pulses of daily laughter and other healthy priming techniques to improve in the reduction of stress in the workplace could improving job satisfaction and employee wellbeing. That alone is reason enough to necessitate the use of this research. Human Resource Management should implement the use of supraliminal pulses of laughter as a non-participatory preventative/intervention.

**School-Based Mental Health Counselors**

Mental health concerns within the classroom continues to climb. Stress, uncertainty, and any number of other negative influencers have an impact on a student’s ability to learn, relate and flourish. This not only applies to the student, but to the school-based educators and other staff, as well. Significant levels of job stress are being reported by teachers in k-12 settings (Lever et al., 2017) with 46% reporting compromised health affecting their teaching performance, inhibiting performance, and having negative consequences on student wellbeing. School based mental health therapists have an obligation to meliorate students’ educational experience. They play a key role in facilitating trust between students and staff (Paolini, 2015). Altering the classroom environment can decrease disruptive behavior. Laughter assists in difficult transitions and the shifting of gears. It has the ability to momentarily override other emotions. The brains circuitry prevents other emotions such as anger, anxiety, frustration, sadness, and fear while laughter takes place (Kuiper & Martin, 1998). School settings have multiple levels of transition, whether it is between teachers and classrooms, activities, friends, and/or transitions in growth (MacLeod & Brownlie, 2014). Simple modifications to the climate,
layout, and stimulating visuals can have a positive impact on transitions, behavior, and learning. Some of the responsibility of the promotion of sound choices through a nurturing environment and providing the means of well executed healthy programs and environments (Dollarhide, 2003) along with conceptualizing and implementing an approach designed to combat conflict resolution while encouraging resilience and removing any barriers to the child’s educational success is in the hands of the team of school-employed professionals with the mental health therapist having inside knowledge on evidence based practices. This study may be an effective method of alleviating job stress and improve job satisfaction of school-based educators and other staff and assist students in areas of transition.

**Employee Assistance Programs (EAP)**

EAP’s have a supplemental role in the promotion of healthy functioning employees. Joslin et al. (2006), stated “Chronic diseases are often preventable; therefore, health promotion efforts taking place in a setting where individuals are consistently present (such as the worksite) may have public health benefits in numerous countries, with varying health care systems in place” (p. 316). EAP’s are aimed at improving the 7 dimensions of wellness: Social, emotional, spiritual, environmental, occupational, intellectual, and physical (Spence, 2015). Social wellness is connectivity and a sense of belonging. This can be addressed at work through environmental design and promotion of collaboration. Emotional wellness (also referred to as mental wellbeing) and spiritual wellness. The Prevention and promotion methods utilized to assist in the management of the adverse effects of job stress. Environmental wellness involves a healthy work environment. An awareness to the immediate surroundings that people spend a good percentage of their day within. This includes a healthy workplace design. Occupational wellness involves work-life balance and the working environment also plays a key role here, as people on the
average spend over 40 hours a week in their working environment. Intellectual wellness involves creative and stimulating activities for the brain. Physical wellness is the health and well-being of the body in order to perform optimally. This includes health prevention and promotion programs. Implementing safeguards and supports intended to lower health risk factors. Environmental and organizational climate plays a crucial role on employee participation as Spence (2015), further reports time/work pressure and accessibility to resources being two of the top reasons that impact employee participation.

Taking into consideration the results of this study, and the countless studies that support the effect that laughter has on reducing all the maladies that stress tends to bring on, consideration to the education and implementation of environmental factors to include laughter pulses to assist in improving employee well-being where participation continues to be an issue.

**Conclusion**

The effectiveness of work groups and teams is imperative with the level of job stress and other extenuating stress factors affecting today's working world. Implementing interventions that requires minimal participation yet provides substantial results can essentially shape or align a team and its processes. Employee Assistance Programs serve as a business strategy which are important to forward thinking employers. An increase in the feeling of satisfaction positively impacts the working environment and serves as a motivator. Beckman et al. (2007) reported an increase in positive emotions, optimism, morale, and resilience following purposeful laughter interventions in groups with increased workloads, anxiety, and a high rate of burnout.

Stress levels must be managed with cost effective interventions. Participation is a key factor in the effectiveness of these interventions and hearing laughter periodically throughout the day is an effective coping strategy (Provine, 2001). Well implemented wellness programs are
associated with lower absenteeism rates and higher levels of job satisfaction (Parks & Steelman, 2008). The researcher selected laughter among retail workers as a mechanism in improved job satisfaction results. The outcome revealed in the present research study supporting evidence that supraliminal laughter is an effective mechanism in increasing job satisfaction.

As most people are inclined to spend a preponderant amount of their day at the workplace, increasing the likelihood of hostile behaviors. Twenty years of research revealed increases in depression, substance use/abuse, and health issues associated with toxic work environments. The purpose of this study was to explore the effects that pulses of laughter had on the job satisfaction scores of the employees of an employee-owned retail chain. The findings suggest that laughter pulses could in fact be used to increase job satisfaction with minimal participation required and have the potential to be correlated with various degrees of positive social change.
References


Appendix

Appendix A: Office of Research Compliance Institutional Review Board

October 19, 2020

MEMORANDUM

TO: Linnea Hertz
    Kristin Higgins

FROM: Ro Windwalker
      IRB Coordinator

RE: Determination of Not Research with Human Subjects

Protocol Title: *Laughter as a Priming Agent for Change*

In reference to the request for IRB approval of your project titled *Laughter as a Priming Agent for Change*, the IRB is not authorized to oversee and approve such research. This protocol does not meet the definition of research involving human subjects in the federal regulations. (See the citation below.) You are free to conduct your research without IRB approval.

45 CFR 46.102 (e)(1)
(e)(1) Human subject means a living individual about whom an investigator (whether professional or student) conducting research:
   (i) Obtains information or biospecimens through intervention or interaction with the individual, and uses, studies, or analyzes the information or biospecimens; or
   (ii) Obtains, uses, studies, analyzes, or generates identifiable private information or identifiable biospecimens.

If you have any questions do not hesitate to contact this office.
Appendix B: Demographics

Demographics

A. Sex:
   1. Male
   2. Female

B. Age
   1. 18-24
   2. 25-34
   3. 35-44
   4. 45-54
   5. 55-

4. Race/Ethnicity
   1. White
   2. Hispanic/Latino
   3. Black/African American
   4. Native American/American Indian
   5. Asian/Pacific Islander

5. Marital Status
   1. Single
   2. Married/Domestic Partnership
   3. Widowed
   4. Divorced
   5. Separated

6. Position
   1. Clerk/General Laborer
   2. Management
   3. HR/Administration
   4. Maintenance
   5. Warehouse
Appendix C: Spector Conditions for use of Assessment

PAUL SPECTOR
ASSESSMENTS

Conditions for Using These Assessments

All of the assessments in the Our Assessments section of paulspector.com are copyrighted.

You have my permission for free noncommercial research/teaching use of any of the assessments that are in the Our Assessments section of paulspector.com. This includes student theses and dissertations, as well as other student research projects. Copies of the scale can be reproduced in a thesis or dissertation as long as the copyright notice is included, as shown in the downloadable copy of each scale.

For commercial uses there is a fee for using these scales. A commercial use means you are charging someone a fee to provide a service that includes use of one or more of these scales. Contact me at paul@paulspector.com to discuss fees for commercial use.

Translations - You are welcome to translate any of these scales into another language if you agree to send me a copy of the translation. Word (.doc or .docx) is best, but .pdf is also acceptable. Be sure to include the copyright statement on the translated version, as well as credit the person who did the translation and the year.

Sharing Results

A condition for free use of these assessments is that you share results. The results I need include:

1. Means per subscale and total score
2. Sample size
3. Brief description of sample, e.g., 220 hospital nurses. I don’t need to know the organization name if it is sensitive.
4. Name of country where collected, and if outside of the U.S., the language used. I am especially interested in non-American samples.
5. Standard deviations per subscale and total score (optional)
6. Coefficient alpha per subscale and total score (optional)

Results can be shared by providing an e-copy of a published or unpublished research report (e.g., a conference paper, dissertation, journal article, thesis, etc.) where one or more of these assessments are used.

You can share the material with me via e-mail: pspector@usf.edu
Appendix D: Job Satisfaction Survey (Spector, 1994).

**JOB SATISFACTION SURVEY**
Paul E. Spector
Department of Psychology
University of South Florida
Copyright Paul E. Spector 1994, All rights reserved.

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel I am being paid a fair amount for the work I do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2. There is really too little chance for promotion on my job.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3. My supervisor is quite competent in doing his/her job.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4. I am not satisfied with the benefits I receive.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5. When I do a good job, I receive the recognition for it that I should receive.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6. Many of our rules and procedures make doing a good job difficult.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7. I like the people I work with.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8. I sometimes feel my job is meaningless.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>9. Communications seem good within this organization.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>10. Raises are too few and far between.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>11. Those who do well on the job stand a fair chance of being promoted.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>12. My supervisor is unfair to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>13. The benefits we receive are as good as most other organizations offer.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>14. I do not feel that the work I do is appreciated.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>15. My efforts to do a good job are seldom blocked by red tape.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>16. I find I have to work harder at my job because of the incompetence of people I work with.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>17. I like doing the things I do at work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>18. The goals of this organization are not clear to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
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### Appendix D (Cont.)

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 I feel unappreciated by the organization when I think about what they pay me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>20 People get ahead as fast here as they do in other places.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>21 My supervisor shows too little interest in the feelings of subordinates.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>22 The benefit package we have is equitable.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>23 There are few rewards for those who work here.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>24 I have too much to do at work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>25 I enjoy my coworkers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>26 I often feel that I do not know what is going on with the organization.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>27 I feel a sense of pride in doing my job.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>28 I feel satisfied with my chances for salary increases.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>29 There are benefits we do not have which we should have.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>30 I like my supervisor.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>31 I have too much paperwork.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>32 I don't feel my efforts are rewarded the way they should be.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>33 I am satisfied with my chances for promotion.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>34 There is too much bickering and fighting at work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>35 My job is enjoyable.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>36 Work assignments are not fully explained.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</table>
## Appendix E: Mean and Standard Deviation for 3 years

<table>
<thead>
<tr>
<th></th>
<th>Group</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
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<tr>
<td><strong>Pretest 1</strong></td>
<td>Standard Music</td>
<td>131.6374</td>
<td>5.91704</td>
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<tr>
<td></td>
<td>Laughter</td>
<td>133.8493</td>
<td>4.80499</td>
<td>272</td>
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<tr>
<td></td>
<td>Total</td>
<td>132.7413</td>
<td>5.49842</td>
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<tr>
<td><strong>Pretest 2</strong></td>
<td>Standard Music</td>
<td>132.7436</td>
<td>5.94090</td>
<td>273</td>
</tr>
<tr>
<td></td>
<td>Laughter</td>
<td>134.5919</td>
<td>5.17505</td>
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<tr>
<td></td>
<td>Total</td>
<td>133.6661</td>
<td>5.64306</td>
<td>545</td>
</tr>
<tr>
<td><strong>2016 Q3</strong></td>
<td>Standard Music</td>
<td>132.9890</td>
<td>5.71150</td>
<td>273</td>
</tr>
<tr>
<td></td>
<td>Laughter</td>
<td>137.2537</td>
<td>7.11049</td>
<td>272</td>
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<tr>
<td></td>
<td>Total</td>
<td>135.1174</td>
<td>6.78619</td>
<td>545</td>
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<tr>
<td><strong>2016 Q4</strong></td>
<td>Standard Music</td>
<td>133.2674</td>
<td>5.94629</td>
<td>273</td>
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<tr>
<td></td>
<td>Laughter</td>
<td>150.9154</td>
<td>8.71590</td>
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<tr>
<td></td>
<td>Total</td>
<td>142.0752</td>
<td>11.55549</td>
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<tr>
<td><strong>2017 Q1</strong></td>
<td>Standard Music</td>
<td>133.9927</td>
<td>5.35435</td>
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<tr>
<td></td>
<td>Laughter</td>
<td>154.5110</td>
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<td>144.2330</td>
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<tr>
<td><strong>2017 Q2</strong></td>
<td>Standard Music</td>
<td>133.1465</td>
<td>6.62053</td>
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<tr>
<td></td>
<td>Laughter</td>
<td>156.8566</td>
<td>9.19197</td>
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<tr>
<td></td>
<td>Total</td>
<td>144.9798</td>
<td>14.31106</td>
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<tr>
<td><strong>2017 Q3</strong></td>
<td>Standard Music</td>
<td>134.6703</td>
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<td>159.7243</td>
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<td>Total</td>
<td>147.1743</td>
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<tr>
<td><strong>2017 Q4</strong></td>
<td>Standard Music</td>
<td>133.6777</td>
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<tr>
<td></td>
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<td><strong>2018 Q1</strong></td>
<td>Standard Music</td>
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<tr>
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<td>Laughter</td>
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<tr>
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<tr>
<td><strong>2018 Q2</strong></td>
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<td>5.37693</td>
<td>273</td>
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<tr>
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<td>Laughter</td>
<td>165.3566</td>
<td>8.92990</td>
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<tr>
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<td>Total</td>
<td>149.6055</td>
<td>17.37308</td>
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<tr>
<td><strong>Posttest 1</strong></td>
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<td>5.13572</td>
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<tr>
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<tr>
<td><strong>Posttest 2</strong></td>
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<td>16.73984</td>
<td>545</td>
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