LEVEL OF EDUCATION AND WORKPLACE SATISFACTION

THESIS

Kevin M. Czajka, Captain, USAF

AFIT-ENV-MS-20-S-095

DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY

AIR FORCE INSTITUTE OF TECHNOLOGY

Wright-Patterson Air Force Base, Ohio

AFIT-ENV-MS-20-S-095

LEVEL OF EDUCATION AND WORKPLACE SATISFACTION

THESIS

Presented to the Faculty

Department of Systems Engineering and Management

Graduate School of Engineering and Management

Air Force Institute of Technology

Air University

Air Education and Training Command

In Partial Fulfillment of the Requirements for the

Degree of Master of Science in Systems Engineering

&

Degree of Master of Science in Engineering Management

Kevin M. Czajka, BS, MBA

Captain, USAF

September 2020

DISTRIBUTION STATEMENT A.
APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.

LEVEL OF EDUCATION AND WORKPLACE SATISFACTION

Kevin M. Czajka, BS, MBA

Captain, USAF

Committee Membership:

Dr. J. J. Elshaw
Chair

Dr. R. D. Fass
Member

Lt Col A. M. Cox, PhD
Member

Dr. A. E. Thal
Member

Abstract

The purpose of this study is to determine if education level and expertise, among other differentiable characteristics, have an impact on an employee's job satisfaction specifically in roles supporting the Department of Defense (DoD). This study focuses on civilians, military, and contractor respondents. This information can then be used to properly place and employ workers in the DoD and beyond. The secondary goal of this study is to develop a survey and method of surveying which will close the gap where there is currently no DoD-wide survey or climate study that is standardized across all branches and applied to employees, military members, and contractors. In many organizations, employees cannot be given rewards, paid more, or incentivized to work harder or love their job. It is up to management to properly align an employee with tasks that will make them happy. Whether happiness increases productivity, or the inverse of whether productivity increases happiness, is a question for a separate research effort.

The desire for this research effort is to help management focus on the right individual characteristics in order to properly place individuals in positions to keep them happy, which is theorized to increase retention and productivity. For example, if salary is shown to be the only factor directly correlated to happiness, then that shows management that promotions, awards, etc., do not keep employees happy and are a waste of effort. Variables such as gender and other demographics will also help further refine the results. For example, are males satisfied by salary and females by awards?

The study suffered from a small sample size but yielded interesting results. There were more satisfied employees and among them the key characteristic was their perception of the proper alignment between their abilities and their job, as well as their freedom to be creative. The demographics showed the more dissatisfied employees reported higher education levels.

Table of Contents

List of Figures

List of Tables

Chapter I

Management and leadership in all types of organizations all have one thing in common, employees. Keeping those employees happy is vital to the success of the organization. Happy employees do not strike or quit; they are happy to come to work, take pride in their work, and self-regulate themselves. Unhappy workers are not controllable and become a cancer to a workforce. Each worker is motivated to work by varying reasons; however, there are commonalities. The purpose of this study is to determine if education level and expertise, among other differentiable characteristics, have an impact on an employee's job satisfaction specifically in the Department of Defense (DoD). This information can then be used to properly place and employ workers in the DoD and beyond. In many organizations, employees cannot be paid more, given rewards, or incentivized to love their job or work harder. It is up to the management to make these determinations and properly align an employee with tasks that will make them happy.

Background

Not only do individuals want to be happier for their personal lives, but their bosses should want them to be happier too. Unit morale and employee job satisfaction are essential to unit effectiveness and employee retention. But what does it mean to be satisfied or happy with work? Happiness at work is to "feel like who you are matters, that what you do have an impact, and you're making progress" (Lencioni, 2016). Lencioni's definition of happiness at work is still subjective to the individual employee. The Cambridge dictionary(2019) defines job satisfaction as, "the feeling of pleasure and achievement that you experience in your job when you know that your work is worth doing, or the degree to which your work gives you this feeling." Happiness

and job satisfaction are used interchangeably in this study due to the equivalency of their definitions.

There can be many factors influencing an employee's happiness or job satisfaction. Leadership must understand their people in order to keep them happy, enable them to feel like they matter, and support them in tasks towards mission accomplishment. A study found that within a laboratory environment, happier workers were, on average, approximately 12% more productive than the control (Sgroi, 2015). If employees can be more productive by simply being happy, then management should make it a priority to ensure the workforce is happy. Happiness, having a sense of mattering, and having an impact at work is directly tied to work tasks.

An employee's resume and initial interview will give management a good idea of job placement and work type. Where an employee is placed is largely based on two things: experience and education. The DoD is a large organization made up of a diverse population of educated workers.

> With more than 1.3 million active duty service members, 750,000 civilian
> personnel, and more than 811,000 National Guard and Reserve service members,
> the DoD is the nation's largest employer. These military and government civilian
> personnel are augmented by over 600,000 private sector employees providing
> services and support under contract to the Department, not to mention hundreds of
> thousands of other employees in the defense industrial base and their suppliers who
> produce the weapons systems for our military. (Performance, 2020)

Employee education levels range from GEDs to PhDs and from young to old military, civilian, and contractor roles. Some employees have worked at one single DoD site for more than 20 years and are extremely involved; others are transplants with related background knowledge, while

others are fill-in, on-the-job learners. However, not all employees in the DoD are happy or fully employed. Some are interested and involved with their work, while others simply get by.

This study examines the community's common agreed upon definition of happiness in a work situation and what constitutes an individual's job satisfaction. The three theories of the cause of happiness are also incorporated with consideration of the authentizotic work climate because of the significance of propagation into the results. Similar impactful topics such as workplace productivity, knowledge intensive work, turnover rate, and the current method of sampling are explained in their relevance to related research and their bearing on this study. Research supporting the happy-productive worker model is also analyzed to reinforce why management should strive for workforce happiness.

Problem Statement

The problem being investigated by this research is the impact of education, other characteristics, and demographics on the job satisfaction level of an employee. This information can be utilized by management to ensure employees are retained and properly tasked. As mentioned in the background above, a happier employee is a more productive employee. It is hypothesized that happy employees will remain at their jobs and that unhappy employees will attempt to change their situation. While turnover and employee productivity are not directly investigated in this research, other studies referenced in this research show that unhappy employees will be more likely to turnover. Turnover and unproductivity are common workplace problems and discovering which characteristics form the basis of employee satisfaction will enable employers to better understand their employees.

Research Question

The overarching research question is which employee characteristic is the most influential in making employees, both government and contractor, happy in a work environment? While there are countless items that could contribute and have varying weight, the individual's preferences further complicate the question. Each employee contains different backgrounds and goals which play into what their desires and motivations are in the work place. Job satisfaction level is the dependent variable of interest. The investigative questions examine the relationship between job satisfaction and the independent variables. The independent variables that describe the background of the employee will be analyzed to determine their impact on the employee's job satisfaction. These include descriptors such as age, gender, religion, years committed ethnicity, marital status, children, involvement, and more detailed below. The independent variable, employee education level, is suspected to directly impact their ability to be happy at work. The other independent variables will be analyzed to determine possible connection with the dependent variable.

Significance of Study

This study will show which correlations exist between job satisfaction and demographic characteristics. The relationship between the two will enable managers to accurately focus on what will facilitate the highest levels of productivity and efficiency. By more accurately identifying these relationships, management will have more information to support proper placing and tasking of employees at work. Defining a correlation between a characteristic and happiness at work can be utilized to increase employee satisfaction. In turn, this should increase productivity and reduce turnover. Should the results of the study reveal that a certain type of employee is

unable to be pleased, then management will be able to focus on those employees that can be satisfied. The survey developed by this study should also be utilized in other organizations for employer situational awareness of the employees.

The current surveys conducted do not specifically look to explore the causation of job satisfaction. While contractors are often hired for a short period of time, others become part of a workforce family in many offices as they are around longer than most military personnel. This research will explore contractor, military, and government employee job satisfaction to cover the full DoD workforce. The secondary product of this research will be filling the gap of contractor job satisfaction data.

Education level is hypothesized to directly correlate to happiness, and the proposed reason is that higher education levels enable an employee to be given more responsibility and meaningful work, thus leading to higher levels of job satisfaction. This may not be the case; thus, other characteristics will also be investigated for correlation. In one international study, the relational aspect of job satisfaction was identified as the most important facet for performance (Ližbetinová, et al., 2017). In another study among senior managers in the forestry and wood-processing sector, base salary was the most important factor for motivation (Lorincová, Hitka, Szabó, and Javorcˇíková, 2016).

The results were expected to provide information on specific factors that the DoD can utilize to improve morale, employee productivity, and efficiency. These results may translate to other organizations with similar demographics. It was expected that the survey would allow for correlations to be drawn between demographics and overall happiness and satisfaction, though the results of the survey cannot account for all possible causes of happiness or unhappiness. There is a possibility that outliers who are educated and tenured will not be satisfied. Another possible

outlier is that new, minimally-educated employees will be satisfied at work. There is also a possibility of education level not being correlated to satisfaction at all.

The majority of Americans will spend approximately 90,000 hours at work if they work 40 hours per week from the ages of 20 to 65 with two weeks of vacation each year. This means that the majority of Americans will spend about 13% of their lives at work. Some may say that 13% is not much, not even close to a quarter of a lifetime; however, as visually shown below, 13% is a substantial amount. This was calculated assuming a life expectancy at birth for the U.S. population of 78.7 years in 2018. Figure 1 depicts calculations of the amount of time spent in an average American life. These calculations are important because they describe why it is vital that employees enjoy their time at work and helps validate the importance of the study.
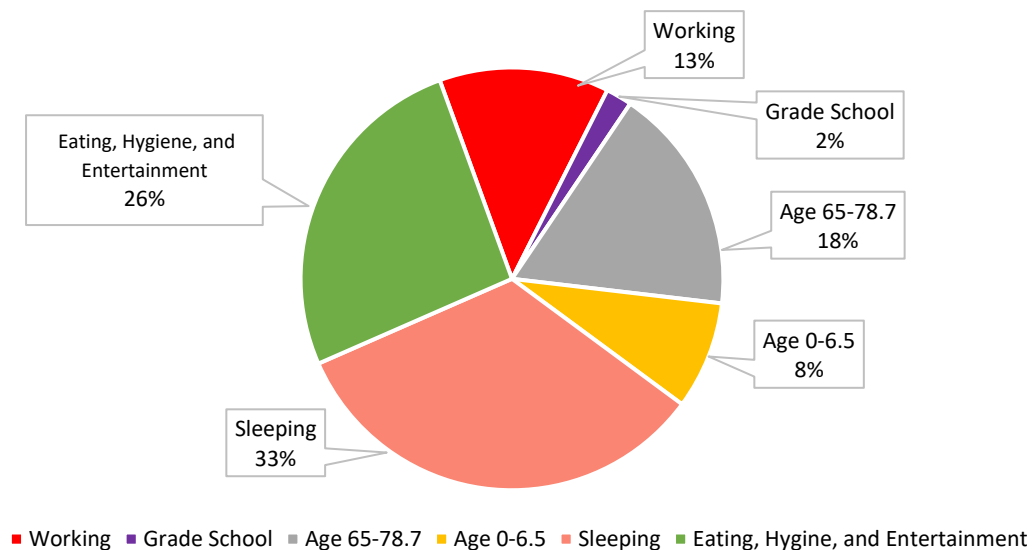
Figure 1: Time Spent in an Average Lifetime of an American

It is important to note that if a person works until the age of 65 and lives to the average American age of 78.7 years, the last 17.4% of their life will be spent at an age where they are unable to participate in the more active things they were in their younger years. Research with

adults suggests that people can remember early childhood memories back only to about age six to six and a half. (Wells, Morrison, and Conway, 2014). Thus, 8.25% of an average lifetime is lost to youth. Therefore, roughly 38.65% of a lifetime is spent at work, in old age, and in youth. Add in the recommended amount of nightly rest of eight hours per night and 33.3% of a lifetime is spent sleeping. The eight-hour minimum recommended amount of sleep is averaged from the recommendations of the National Sleep Foundation (2015). Assuming the average American completes 12 years of grade school with a three-month long summer vacation adds in 2%. This leaves just 26% left for eating, hygiene, and entertainment/recreation in the rest of a lifetime. Individuals can attempt to sleep less, at the likely sacrifice of health and longevity, but without drastic life changes, there is little else that can be done to change the percentages.

These percentages are important when considering the same percentages in terms of memorable moments and happiness. Figure 2 shows that 59% of an average American lifetime is not even remembered. Dreams during sleep occur in a small amount of time and are negligible in this case. This is, of course, hoping that one is not part of the 10% of people age 65 and older in America who have Alzheimer's dementia (Alzheimer's Association, 2019). It is now clear how 13% of a lifetime that is spent working unhappy is actually a large amount of a life when put into terms of a memorable life, which increases the percentage spent at work to approximately 32%. Translating this to total years would equate to 25 of your average 78.7 years of average life. This shows how important it is that the 32% is spent in an occupation where the employee feels happy, satisfied, useful, and among other things. This chart cannot account for the possible shortening of a lifetime caused by stress inflicted through a non-ideal working situation. These charts do not account for gender differences, unemployment, college, incarceration, sickness, or other

extenuating circumstances. Nonetheless, these charts do show that a large amount of a memorable life will be spent working which is why it is important that the time be not wasted being unhappy.
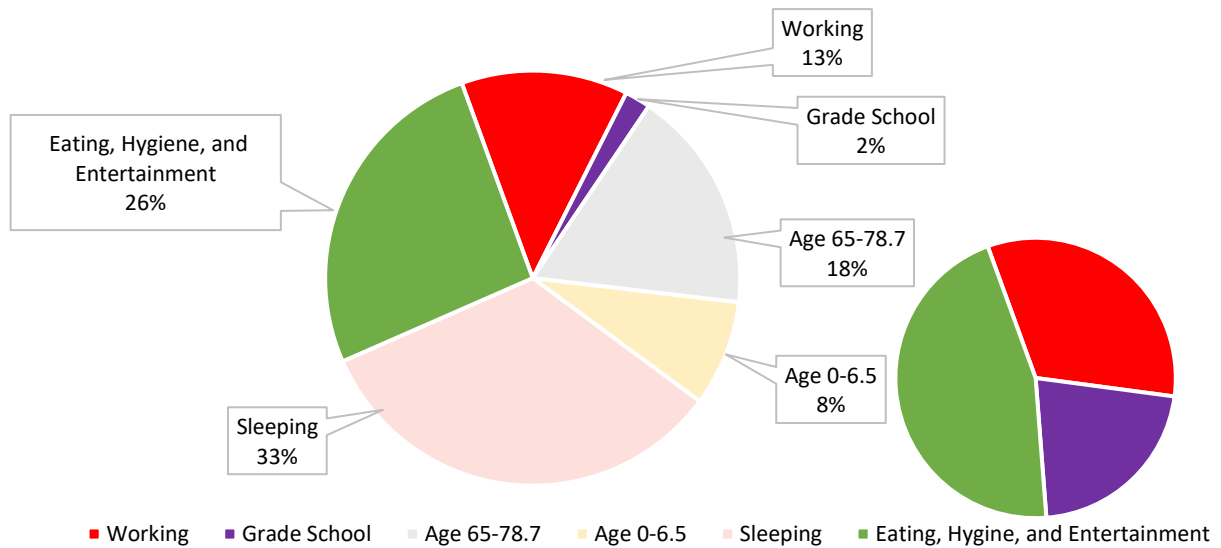
Figure 2: Memorable Time Spent in an Average Lifetime of an American

Methodology

The problem being investigated by this research is the impact of education level among other characteristics and demographics on the satisfaction level of an employee. This information can be utilized by management to ensure employees are retained and properly tasked and to analyze which employee characteristic is the most influential in making employees happy and satisfied in a work environment. The research presented below will examine the employees in the DoD, both government and contractor, to determine how happy they are through multiple specially designed questions. The questions are determined by analyzing the definition of happiness and job satisfaction, the theories of what causes happiness, and accepted polling procedures. The constructs evaluated are common in social science and the related research documentation is outlined in Chapter III. These questions are then paired with demographic questions in order to

18

determine what possible correlations there are between the two sets of questions. This type of study and the topic of worker happiness is not new in the field; however, this research is focused on DoD members particularly which has not been previously examined.

The independent variable, employee education level, is suspected to directly impact an employee's ability to be happy at work. The other independent variables will also be analyzed to determine possible connections with the dependent variable. Correlations may be drawn from singular or multiple independent variable's impacts on the dependent variable. Some of these variables seem impossible to measure. Involvement, perceived opportunity, and productivity are all perception variables. The variable is defined by the employee based on his or her understanding or interpretation of its definition. The actual definitions and nuances of the variable do not matter as much since the study is trying to capture how the employee feels. For example, the variable of opportunity at work can be defined by employees differently. Some may think of it very concretely or others more abstractly. The actual number of real opportunities they have had does not matter in this study. What matters is the employee's perception of those opportunities.

All of the independent variables could be dependent depending on how each is detailed. Variables, such as salary, would be dependent on time served and education level; however, they are being forced to be independent variables in this experiment in an attempt to not over-complicate the variables and prevent correlations. It is very possible that the higher an individual's age, the higher their salary, thus leading to increased happiness. Each variable is kept segregated, even though there are interdependencies to prevent convoluting the results. There are additional independent variables that could be extracted from Figure 3. For the purposes of developing the data collection model, this aspect of the study is not fully explored in the baseline model.

The survey results will be analyzed for correlation. To interpret the correlation coefficients, the classification from Cohen (1977) was used to point out correlations higher than 0.30 are moderate and correlations higher than 0.50 are high. Cronbach's alpha is similar to tau-equivalent reliability as an estimate of the reliability of a psychometric test. Essentially, a correlation of two tests that measure the same construct will describe to what extent the same thing is being measured. This will establish possible reasoning why some employees are happier than others and the information can then be used by management to increase job satisfaction and productivity in the unit.
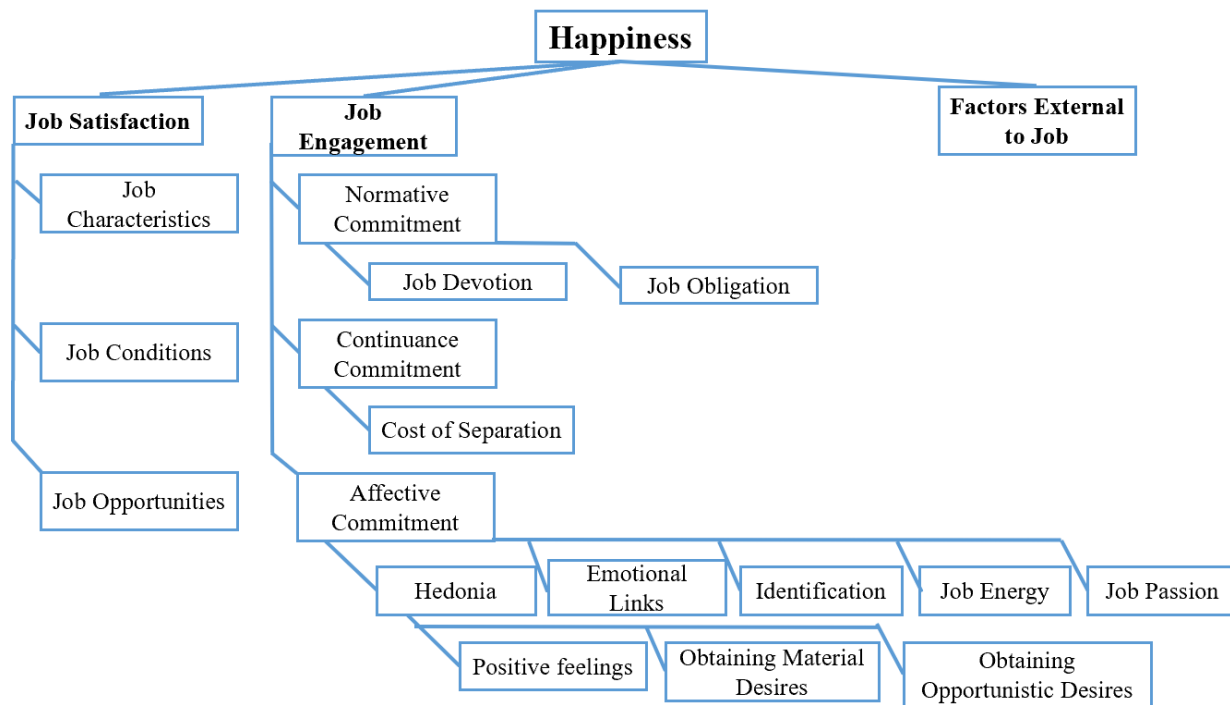
Figure 3: Fishbone diagram of possible contributing factors to employee happiness

This study and battery of questions are by no means sufficient to explore the many distinctions of an individual's reasons for happiness. It is not naively assumed that a person's happiness or disdain can be narrowed down to one influential factor. Most likely, happiness or

disdain in the workplace involves a complex web of interdependent variables which determine the dependent variable. Figure 3 attempts to show some of the many significant variables. This is not an exhaustive list and every topic on this list cannot be examined in this study. It is the desire of the study to narrow the field of possible significant variables and discover those which employees collectively find important enough such that managers may better focus their efforts in strengthening team or organizational happiness.

Assumptions and Limitations

The main limitation of this study is its breadth. Ideally, a larger number of military, civilian, and contractors working with the Air Force and other branches would be polled for the most accurate results. This will limit the ability to accurately generalize the results of the study across other organizations and units. That level of breath would also require speed. While polling every member of the DoD would be ideal from a data standpoint, it would take extensive time, over which the responses could change and in turn, negate the value of the conclusions.

An additional complication is that higher education levels, more responsibility, and more meaningful work will also possibly bring higher salaries, as mentioned above. Paying the employee more money might be enough to increase their happiness. Also, becoming a more educated person takes a substantial amount of time. This will result in an older employee who, possibly being more mature and experienced, may be able to place themselves in a job they know will be more satisfying, based on previous experiences in working at a unsatisfying job. These two possible complications may impact the survey's validity.

A third issue the study may not account for is the employee who is satisfied with the status quo. This employee is not unhappy with their job situation; they are content. These employees

may skew the results of the study with overly moderate answers. This is important to note because this type of employee is not motivated by the satisfaction a job brings nor unmotivated by negative feelings about their job. A benefit-driven employee has a different base motivation for working and is more likely to ignore a poor working environment or job they do not like for its benefits. These benefits include anything the job provides other than the work itself and satisfaction from completing the work. Many organizations consist of employees whose satisfaction levels run the gamut – from very happy to "status quo" to very unhappy. It is this variability that helps researchers determine significant relationships. As long as there is some amount of variability in the employees and they have not all accepted their fate as unchangeable, the survey will produce valuable results.

Organization of Remaining Chapters

Now that the importance of this research question is defined, Chapter II will systematically identify and synthesize documents containing information related to the research problem. Chapter III will detail the methodology of the research, expand on the questions chosen, and the purpose of the research. It will also detail the specifics of conducting the survey. Chapter IV will summarize the results of the research, while Chapter V will draw conclusions on those results.

Chapter II

This chapter serves to identify and synthesize previous research that has been completed in this field and to establish evidence for community agreed upon definitions. The first item to establish is the community's common agreed upon definition of happiness in a work situation or job satisfaction. This definition of happiness will be deconstructed in order to test the employee by survey. This chapter will also cover three proposed theories of the cause of happiness, of which a combination is used in this research. The authentizotic work climate is also examined because of the relevance of work-related stress propagating into the results. Research supporting the happy-productive worker model is also analyzed to reinforce why management should strive for a happy workforce. Similar impactful topics such as knowledge intensive work, turnover rate, and the current method of sampling are explained in their relevance to related research and their bearing on this study.

Defining Happiness and Satisfaction

It was found that the following items are agreed to define to a person's work happiness level: job satisfaction, engagement, commitment, hedonia and eudaimonia, well-being, and psychological capital (Salas-Vallina et al., 2018). Each component item will be analyzed below with supporting research and documentation. Locke (1976) defined job satisfaction as a "positive emotional state resulting from the appraisal of one's job or job experiences." Weiss and Cropanzano (1996) connected job satisfaction to job performance through the happy-productive worker model. The happy-productive worker thesis will be expanded on later due to its relevance with this study. The main difference between job satisfaction and engagement is that job satisfaction refers to judgements about job characteristics, such as job conditions and

opportunities, while job engagement refers to feelings of energy and passion at work (Salas-Vallina et al., 2018). Engaged employees were defined by Kahn (1990) as those who employ and express themselves physically, cognitively, emotionally and mentally during role performances, giving themselves to their work. Acomponent of happiness, commitment, refers to the level of connection with an organization and is comprised of affective, continuance, and normative commitment dimensions. Affective commitment is tied to the employee's emotional links and identification with an organization. Continuance commitment refers to the perceived costs to the employee if they were to leave the organization. Normative commitment is the obligation that an employee feels to stay in an organization (Meyer and Allen, 1997). In contrast, job engagement is more dependent on personal factors. According to Waterman et al. (2008), hedonia is the feeling of pleasure and is described as the positive feelings that accompany obtaining material desires or obtaining actionable opportunities desired. Waterman (1993) also defines eudaimonia as living well, or actualizing one's human potentials.

Individual Job Satisfaction

Having described the definition of work place happiness and job satisfaction, it is important to investigate previous research in relation to the process of surveying for these characteristics. Diener et al. (1998) addressed the science of happiness and life satisfaction and the research focused on the topic of subjective well-being. Subjective well-being is defined as a person's cognitive and affective evaluations of his or her life. The concept is that the essential ingredient to a good life is that a person likes their life (Diener et al., 1998). This may sound intuitive, but the importance is that people are different and find enjoyment in different things. A major concern of research in the field is whether self-report instruments, such as surveys, are valid and accurate.

Diener et al. (1998) recommend a multi-method battery to assess subjective well-being when possible. Schwartz and Strack (1999) and their colleagues showed that situational variables can exert a substantial impact on life satisfaction and mood reports. This showed that findings illustrate life satisfaction judgments are not immutable, stored values that are reported when requested. Instead, respondents seem to use currently salient information to construct life satisfaction judgements. The research conducted by Diener et al. (1998) and Schwarz and Strack (1999) show that the surveys conducted by this study will need to be conducted by more than one single collection spread over varying times. There are three main theories of happiness that have been proposed by the community that will need to be surveyed: need and goal satisfaction theories, process or activity theories, and genetic and personality predisposition theories. All three theories are relevant to this study and may impact the results, thus they are important to consider. This research slightly uses the process or activity theory and genetic personality predisposition theory. The survey examines both happiness with work tasks fitting the second theory, and predisposed characteristics such as age, ethnicity, and gender that fit the final theory.

A job satisfaction study done on 788 Austrian bank employees in 2015 measured different facets of job satisfaction using facet scales and facet items, where facet scales included multiple items for one facet and facet items were limited to one facet. The aim of this study was to show that a facet-item measurement can be a replacement for a facet scale measurement of job satisfaction with multiple-items. This study discovered that facet-items of job satisfaction were significantly correlated with the corresponding facet scales and had high factor loadings within the appropriate factor. Furthermore, the same correlational pattern between facet scales and external criteria was found for facet items and external criteria (identification with the company, work engagement, stress, and resources). The findings support the usage of facet-items in companies

and in research where cost and time effectiveness are imperative and the usage of facet scales where an even deeper understanding of job satisfaction is needed (Lepold, Tanzer, Bregenzer and Jimenez, 2018). This is important because shorter surveys are more likely to be approved by companies and more likely to be completed by the employees or participants in a study (Burisch, 1984 and Hoerger, 2010). Therefore, an economic measurement will lead to higher participation of employees in an employee survey or in research studies (Haarhaus, Entwicklung, and Validierung, 2016).

The Profile Analysis of Job Satisfaction (PAJS) is a standardized approach to measure a wide range of facets of job satisfaction and it is possible to compare the results of an organization with a representative sample. The PAJS contains 11 facets with multiple-items for every facet totaling 38 questions and, therefore, allows a very specific assessment of the workplace (Jimenez, 2008). With the idea of being efficient, the PAJS-Facet-Item (PAJS-FI) uses eleven items to measure eleven facets. Table 1 shows the facet scale and facet item examples for each facet of job satisfaction used in the study.

The bank employees were asked to indicate their agreement on a five-point scale (1 = very satisfied, 5 = unsatisfied). The study focused on measuring identification with the company, work engagement, resources, and stress, as well as job satisfaction. In the study, "the Cronbach's alpha for the global job satisfaction score in PAJS-FI was = 0.89 and for the PAJS also = 0.89" (Lepold, Tanzer, Bregenzer and Jimenez, 2018). "Identification with the company was measured with four items that resulted in a Cronbach's alpha for identification with the company was = 0.90" (Lepold, Tanzer, Bregenzer and Jimenez, 2018).

Table 1: Comparison of the Profile Analysis of Job Satisfaction (PAJS) and the PAJS-Facet-Item (PAJS-FI).

Facet of Job Satisfaction	PAJS—Facet Scale Measurement	PAJS-FI—Facet-Item Measurement
Information and communication	Three single-items (Sample item: I am … with the information about activities in the company.)	I am … with information and communication (activities in company, treatment of my suggestions, information from the management, information about innovations).
Demanding work	Three single-items (Sample item: I am … with my work domain.)	I am … with how demanding my job is (work domain, responsibility).
Relationship to direct colleagues	Four single-items (Sample item: I am … with the support of my direct colleagues.)	I am … with the relationship to my direct colleagues (team spirit, work atmosphere, division of work, support).
Relationship to direct supervisor	Four single-items (Sample item: I am … with the support of my supervisor.)	I am … with the relationship to my direct supervisor (support, openness for problems, arrangement of cooperation between colleagues, praise, criticism).
Organization and management	Three single-items (Sample item: I am … with the image of the company.)	I am … with the organization and management (effort regarding employees, participation possibilities, image).
Chances of making career	Five single-items (Sample item: I am … with my chances of moving up in my company compared to my colleagues.)	I am … with the chances of moving up and making career (compared to my colleagues, to colleagues from similar companies, to friends, possibility of making my desired career, possibility of further education).
Working conditions	Three single-items (Sample item: I am … with my working tools and materials.)	I am … with the working conditions (working tools and materials, working environment, work applications, personal design freedom).
Decision range	Three single-items (Sample item: I am … with my participation possibilities concerning my work domain.)	I am … with the decision range (classification of work tasks, possibility of participation).
Working and vacation times	Four single-items (Sample item: I am … with the planning of my vacation times.)	I am … with working and vacation times (working hours, consideration of wishes in organizing working hours, vacation times, organization of breaks).
Compensations of the employer	Three single-items (Sample item: I am … with the payment compared to my colleagues.)	I am … with compensations of the employer (financial, social, job security).
General framework conditions	Three single-items (Sample item: I am … with the extended benefits offered to me.)	I am … with extended benefits (flexible working-time models, burnout-package, workplace health management).

[1] The three points " … " refer to the rating-scale from "1, very satisfied" to "5, unsatisfied". An example for the rating of a single-item of the facet "organization and management" with a rating of "very satisfied" is "I am very satisfied with the image of the company".

Work engagement was measured using the short version of the UWES-9 which pertains to three dimensions: vigor, dedication, and absorption (Schaufeli, 2003). "Cronbach's alpha for work engagement was = 0.96" (Lepold, Tanzer, Bregenzer and Jimenez, 2018). Resources and stress were measured with the Recovery-Stress-Questionnaire for Work (RESTQ-Work) (Jimenez and Kallus, 2016). "Cronbach's alpha for resources was = 0.93 and for stress = 0.94" (Lepold, Tanzer, Bregenzer and Jimenez, 2018). Data was analyzed using Version 24 of Statistical Package for Social Sciences (SPSS) and using the program Mplus. "Every facet-item showed a moderate to high correlation with the appropriate facet scale, ranging from 0.50 to 0.82 ($p < 0.01$)" (Lepold, Tanzer, Bregenzer and Jimenez, 2018). The results of this study show that a shorter questionnaire of only 11 items instead of 38 will yield very similar data. This also supports the determination by this research to test for the 11 dimensions using an item-based approach and not a scale-based approach.

Need and Goal Satisfaction Theory

The first theory focuses on the elimination of pain and the satisfaction of biological and psychological needs leading to happiness. This is a combination of Freud's pleasure principle and Maslow's hierarchical needs model. Omodei and Wearing (1990) found that the degree to which individuals' needs were met was positively associated with the degree of their life satisfaction. Goal theorists argue that individuals attain subjective well-being when they move toward an ideal state or accomplish a valued aim. Michalos (1985) postulated that happiness is inversely related to the degree of discrepancy from multiple standards, including what one wants, what one has had in the past, and what relevant others have. This theory implies that satisfaction cannot happen until needs are met and goals are fulfilled. This could affect the research done by this study in that

results from surveys may be skewed. Respondents who do not have their basic Maslow and Freudian needs and goals met may present lower levels of happiness regardless of their backgrounds. The counter is that the respondent's job provides the means to meet basic needs and goals and thus the two are still related.

Analyzing the psychological needs quickly becomes more complicated than the biological. Using self-determination theory, two studies found that holding an extrinsic, relative to an intrinsic, work value orientation was,

> associated with less positive outcomes (i.e., less satisfaction with, dedication to, and vitality while on the job) and more negative outcomes (i.e., higher emotional exhaustion, short-lived satisfaction after successful goal-attainment, and turn-over intention) because these orientations thwarted the satisfaction of the basic psychological needs for autonomy, competence and relatedness at work. (Vansteenkiste et al., 2007)

An extrinsic work value orientation concerns "the traditional pursuit of success by advancing up the organizational hierarchy to achieve prestige, status, and high income" (Watts, 1992). The importance of financial success, power, and status to a person lies in the anticipated personal admiration and self-worth that can be obtained by obtaining them (Kasser and Ryan, 1993; Ryan and Deci, 2000). These are external indicators of worth recognizable in a social environment. These relations were not limited to job outcomes but emerged using indicators of employees' general mental health. Having an outwardly orientation, or extrinsic, "is likely to detract from psychological health because such an orientation thwarts the satisfaction of the basic psychological needs" (Niemiec et al., 2006). Moreover, income level did not moderate these relations. However, a study found that those with high family income (over 90,000 USD) were almost twice as likely

to be "very happy" as those with low household income (below 20,000 USD) (Kahneman et al., 2006). Studies have not been able to replicate the positive relation results between an intrinsic orientation and job satisfaction (Amabile et al., 1994). Studies have although repeatedly found that intrinsically focused values are favorable over extrinsic for mental health leading to greater physical health (Kasser and Ryan, 1993, 1996; McHoskey, 1999; Vansteenkiste et al., 2006). Intrinsically oriented individuals, relative to those who are predominantly extrinsically oriented, more often engage in activities that satisfy their needs for autonomy, competence, and relatedness (Kasser et al., 2004) which, in turn, is related to various positive job satisfaction outcomes.

It is also possible that employees' extrinsic, relative to intrinsic, work value orientations promote certain negative experiences at work that carry-over to family life (Carlson et al., 2000). The pursuit of certain work values may interfere with the development of a happy and satisfying life outside of work (Spector, 1997). A number of researchers (Malka and Chatman, 2003; Nickerson et al., 2003) have suggested that the negative effects of holding an extrinsic work value orientation might be offset, or even reversed, for those with a high level of income. However, this prediction contrasts Kasser and Ryan's (1996) finding that extrinsic, relative to intrinsic, value pursuit negatively predicted well-being and self-actualization, regardless of income level. The basis of aspiration theory states that, "subjective wellbeing is a reflection of the discrepancy between people's aspirations and their attainments" (citation?). As such, it is hypothesized that highly extrinsically oriented individuals with a high level of income would suffer less from adopting an extrinsic work value orientation because they have better attained their extrinsic values, relative to people with a low level of income (Andrews and Withey, 1976; Campbell et al., 1967; McGill, 1967). This would further support the hypothesis that education level will be related to job satisfaction in extrinsic employees due to the likelihood of higher pay for higher education.

Nickerson et al. (2003) found that the negative impact of aspiring to achieve financial success on life satisfaction and job satisfaction was diminished for people earning a high income. Malka and Chatman (2003) found that extrinsically oriented individuals were more satisfied with their jobs and life if they earned a high income but not if they earned a low income. However, Kasser and Ryan (1996) found that the "negative effects of an extrinsic, relative to an intrinsic, life value orientation on a broad range of well-being outcomes (i.e. self-actualization, vitality, depression, anxiety and physical symptoms) were not offset for people with a high level of income."

Process or Activity Theory

The second theory focuses on happiness through process and activities. Sheldon et al. (1996) found that people were happiest on days when they engaged in activities for intrinsic reasons. McGregor and Little (1998) also found that people who have important goals tend to be more energetic, experience more positive emotions, and feel that life is meaningful. In two studies with 146 and 179 university students, goal efficacy was associated with happiness and goal integrity was associated with meaning. In both studies, identity-compensatory predictors of satisfaction were apparent. Agentic participants were happiest if their goals were supported by others, communal participants were happiest if their goals were fun, and hedonistic participants were happiest if their goals were being accomplished (McGregor and Little, 1998). This theory focuses on individuals performing actions for the sake of enjoyment. The opposing opinion is that individuals perform actions for the extrinsic motivation from external rewards or outcomes. The questions proposed in the research survey will focus on attempting to determine if the worker is satisfied with his or her work and tasks.

Genetic and Personality Predisposition Theory

Enduring dispositional characteristics predisposing people to a certain level of satisfaction is one of the more popular explanations for why job satisfaction exhibits temporal stability. The findings from two studies focused on genetic factors that presumed disposition accounted for as much as 30% of the variance in job satisfaction (Arvey et al., 1989; Arvey et al., 1994). The heritability approach research suggests that dispositions mediate the relationship between genetics and job satisfaction (Ilies and Judge, 2003).

Research has explored the relationship between positive and negative affectivity and job satisfaction. "Negative affectivity is a stable personality variable manifested in one's affect and self-concept" (Watson and Clark, 1984) that is "closely related to the five-factor model characteristic of Neuroticism" (Watson et al., 1988). Watson et al. (1986) stated that individuals with strong negative affectivity tend to be dissatisfied with their jobs. Two meta-analyses reported mean corrected correlations between negative affectivity and job satisfaction ranging from -0.33 to -0.40 (Connolly & Viswesvaran, 2000; Thoresen et al., 2003). There is less research on positive affectivity as an antecedent of job satisfaction. "Positive affectivity is a personality characteristic representing a tendency to experience pleasurable engagement and enthusiasm across a wide range of situations and is similar to the five-factor model characteristic of Extraversion" (Bowling et al., 2005; Watson et al., 1988). Meta-analyses report that the mean corrected correlations between positive affectivity and job satisfaction are approximately 0.50 (Connolly & Viswesvaran, 2000; Thoresen et al., 2003).

Judge et al. (1997) argued that core self-evaluations would have a direct effect on job satisfaction via emotional generalization from feelings about one's self to feelings about one's occupation. Dispositions may also influence the manner in which employees perceive their jobs,

which, in turn, impacts job satisfaction. It has been argued, for example, that negative affectivity impacts job satisfaction by influencing how individuals collect, process, and evaluate the information they receive from their work environment (Levin & Stokes, 1989; Necowitz & Roznowski, 1994). That is, high negative affectivity individuals attend to and recall a greater number of negative aspects of their jobs and therefore perceive their jobs more negatively. Necowitz and Roznowski (1994) found that high negative affectivity individuals tend to perceive a laboratory task more negatively and are able to recall a greater number of negative features of the task.

Tellegen et al. (1988) examined monozygotic twins who were reared apart and compared them with dizygotic twins who were reared apart, as well as with monozygotic and dizygotic twins who were raised together. Tellegen et al. (1988) estimated that 40% of the variability in positive emotionality and 55% of the variability in negative emotionality could be predicted by genetic variation. The estimates allow for environmental influences, but genes do appear to influence characteristic emotional responses to life circumstances. This research suggests that regardless of management, reward, compensation, job satisfaction, and other factors, some individuals will present as happier than others. This is explored by comparing surveys of similar individuals and their relative level of happiness. However, this theory also suggests that demographics such as gender, ethnicity, and other differentiating factors controlled by genetics do have an impact on predisposed happiness. The survey conducted by this research will include demographic questions to determine if this theory is applicable.

Authentizotic Psychological Climates

Rego and Cunha (2008) explored the six authentizotic psychological climates that explain stress and affective well-being at work, along with how stress and affective well-being explain self-reported individual performance. This is relevant to the goal satisfaction theories and process or activity theories. If an employee struggles with affective well-being and stress, the self-reported data in this study could be skewed by stress and not necessarily unhappiness. The authentizotic organization is an organization where people find meaning in and are captivated by their work.

> This term is derived from two Greek words: authentikos and zotikos. The first
>
> conveys the idea that one does something themselves. In its broadest sense, the
>
> word authentic describes something that conforms to fact and is therefore worthy
>
> of trust and reliance. The term zotikos means full of life. In the organizational
>
> context, it describes the way in which people are invigorated by their work. People
>
> in organizations to which the zotikos label can be applied feel a sense of balance
>
> and completeness. (Kets de Vries, 2001)

Kets de Vries (2001) described that what makes a good organization "begins with an understanding of the well-functioning individual." The Portuguese sample exploring these climates consisted of 199 employees from 118 organizations. It was found that, "The psychological climates explain unique variance of stress, affective well-being and performance. Stress explains the unique variance of affective well-being. Affective well-being, mainly enthusiasm, vigor and placidity explain the unique variance of performance" (Rego & Cunha, 2008). Variance in performance will affect the employee's goal satisfaction theories and process or activity theories.

Research performed by Abdul (2013) revealed that when these poor conditions increased, they added stress to the work environment and in turn led to unbearable workloads and higher

turnover. This was also made evident by Fassoulis and Alexopoulos (2015), stating the same result, that a poor work environment has not only provided a reduction in job satisfaction and productivity, but also increases in absenteeism, depression, burnout, musculoskeletal disorders, and so on. There is reason for large concern from managers when it comes to the overall status of their employee's well-being. Working in an indoor environment which is not healthy can be associated with employee's poor health, morale, absenteeism, and productivity (Krishnamoorthy et al., 2016).

Work Place Productivity

The core factor of success in most organizations is a productive workforce. Many times, this comes with management style and influencing the workforce to become and stay productive (Shobe, 2018). Management should gather intelligence of their own people to appropriately allocate the human capital across the organization to gain the most productive group possible (Denton, 2013). Oswald et al. (2015) found evidence that happiness makes employees more productive. Three different styles of experiment conducted were randomly selected an individual to make happier. The treated individuals who were made happier became 12% more productive. A fourth experiment studied the effect of major real-world shocks, such as bereavement and family illness. A lower level of happiness due to a real-world shock was found to be systematically associated with lower productivity (Oswald et al., 2015).

The happy-productive worker thesis describes research that spans almost 70 years, although there is some uncertainty on whether happier workers are more productive. Zelenski (2013) conducted research suggesting that happiness does foster productivity both in the trait level of analysis and at the state level of analysis. In this case, the trait level refers to people with

personalities predisposed towards a happy state, and the state level refers to people that are more productive when in a happy mood. The issue comes in determining the difference in something that is indeterminable to be a binary state. Several researchers have recognized that the research on happiness and productivity at work needs to distinguish between the state and trait levels. Specifically, it is different to ask, "Do fluctuations in happiness covary with (or cause) short-term differences in productivity?'' (state approach) than to ask, "Are happy people more productive over long periods of time?'' (trait approach). These two questions may have different answers and may suggest different processes linking happiness and productivity (Cote 1999; Fisher 2003; Wright et al., 2004). Fisher (2003) examined these two approaches in relation to the lay person belief that satisfied workers perform better. She found that individuals felt more satisfied than usual when they believed they were performing better than normal for themselves. "They then mistakenly generalize from their own within-person experiences of satisfaction performance covariation to the between-persons level, forming the believe basis" (Fisher, 2003).

Herzberg played a large role in the study of job satisfaction and what caused people to be either satisfied or dissatisfied with their work. He developed a two-factor theory, which consisted of motivators and hygiene factors and these two topics would help explain job satisfaction in the workplace (Costello, 2014). Herzberg used the motivators as a "means to show factors which could actually affect the satisfaction, whereas the hygiene factors could not make the employee more satisfied, but kept the employee from becoming dissatisfied with their job" (Shobe, 2018). Motivating factors are associated with achievement, relevant work, and opportunity while hygiene factors are associated with administration, interpersonal relationships, and supervision practices.

Knowledge Intensive Work

Salas-Vallina et al. (2018) conducted a study on happiness at work in knowledge-intensive contexts. Knowledge-intensive workers are employed to use their minds and expertise due to extensive educational backgrounds. "To sustain a company's competitive advantage, highly skilled workers who are perfectly aligned and motivated in the organization are essential" (Salas-Vallina et al., 2018). These jobs are commonly known as "white-collar" professions, such as physicians, engineers, architects, scientists, and lawyers, etc. The concept of knowledge-intensive workers was first introduced by Drucker in 1959. The first complication of this is that knowledge intensive workers and knowledge-intensive contexts are not easily separable since all work requires some amount of knowledge (Alvesson, 2001). This matters to organizations because most knowledge is tacit and exists in the head of individuals; therefore, if they are not retained, neither is the knowledge (Polanyi, 1967). Retaining a highly skilled worker is suggested to be more difficult than the average worker.

> "They also need to be treated as being different from other colleagues, in order to
> feel fully valued as being unique, and not merely as an interchangeable resource.
> They need their research projects to be customized according to their passions and
> skills, and closely matched to their main interests. Shaping a context that improves
> knowledge-intensive employees' happiness at work might lead them to feel
> motivated." (Salas-Vallina, 2018)

This is vital due to the previously shown possible factors of what constitutes a happy employee. Thus, in relation to this study, the lack of happiness in skilled employees is hypothesized to correlate to higher levels of turnover, and the opposite is hypothesized; happy, highly skilled employees will experience lower turnover rates.

A study of United Kingdom workers connected the health and wellbeing of the workforce and the changing nature of work in the knowledge economy to examine whether knowledge work is better for employee health and wellbeing. This study classified works by the degree to which their jobs are knowledge intensive based on the actual tasks they perform as part of their jobs. They "estimated that 30 percent of the workforce form the 'core' knowledge worker group, with a further 30 percent requiring some knowledge and 40 percent requiring little knowledge" (Brinkley et al., 2009). The study concluded that core knowledge workers reported feeling healthier, having better perceptions of job quality, more autonomy, and stronger feelings of plans to remain in their current line of work. "The main conclusion that we can draw from the evidence presented in this paper is that job quality provides a way to improve the health and wellbeing of the workforce, regardless of the degree of knowledge content of their jobs" (Brinkley et al., 2009). In 1970, "the majority of the UK workforce had no qualification and degree level qualification was reserved for less than one in ten" (Brinkley et al., 2009). In 2009, the vast majority of workers had qualifications and between a fifth and a third have higher level qualifications. Figure 4 shows these changes in the UK and the US workforce. The study assessed worker satisfaction with their jobs in five domains: pay, security, work itself, achievement, and hours. Workers were placed into clusters where 30% consisted of jobs with many knowledge tasks, 40% with some knowledge tasks, and 30% with few knowledge tasks (Brinkley et al., 2009). In each of the five domains, the worker clusters consisting of many knowledge tasks were found to present more positive values than the groups with some knowledge tasks and those presented more than the clusters with few knowledge tasks.
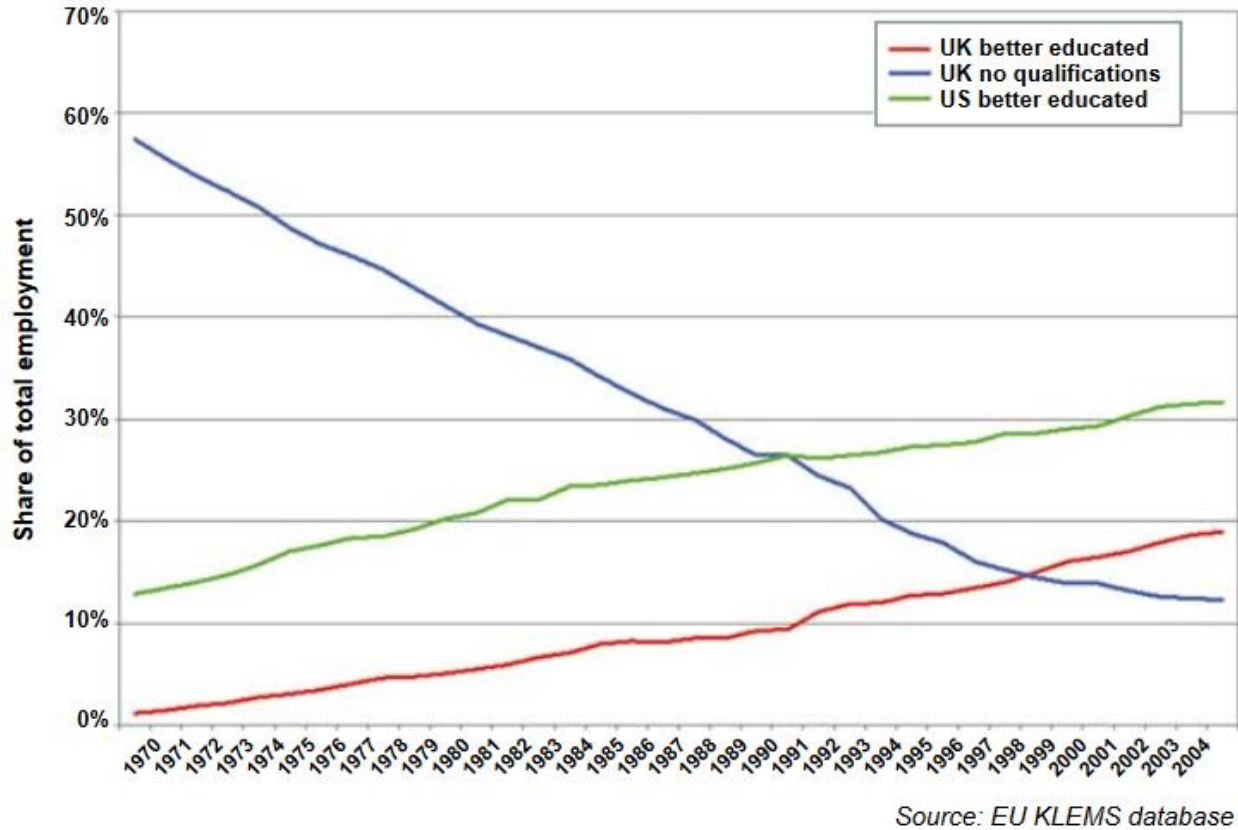
Figure 4: Rise of the educated and qualified workforce 1970-2005 (Brinkley et al, 2009)

Bolger and Schilling (1991) found that "employees who were more prone to negative emotions were more likely to use contentious interpersonal tactics and thus provoke negative reactions from co-workers." According to Cropanzano and Wright (2001), "unhappy employees are more sensitive to threats, more defensive around co-workers, and more pessimistic." This would suggest that negative employees will influence others negatively and thus bring down the overall productivity rate. Conversely, happier employees are sensitive to opportunities, more helpful to co-workers, and more confident. Truly miserable employees, those who are depressed, "are likely to display little energy or motivation, and accomplish little" (Zelenski, 2008). Fredrickson (1998, 2001) suggested that positive emotions function to 'broaden and build' skills and social bonds; they also "broaden people's momentary thought-action repertoires, which in turn

39

serves to build their enduring personal resources." For example, individuals in positive mood states are more cooperative, more helpful, and less aggressive, thereby likely improving productivity in social or collaborative work contexts (Isen, 2001). In addition, positive emotions may lead to better performance in more complex jobs by enhancing creative problem solving (Estrada et al., 1997). This is a key point in this study due to the nature of some of the complex research and the education diversity across the DoD. Beyond the immediate effects, positive emotions may also assist in building resources for future performance. Positive emotions are likely to foster new skill acquisition and the building of social capital that may be utilized at a later time (Fredrickson, 2001). This suggests that trait measures of happiness (particularly positive emotions) could predict long-term productivity, even if happy states were unrelated (or even negatively related) to short-term productivity.

Turnover Rates

Losing employees causes a disparity in job knowledge and efficiencies learned to be lost. Lytell and Drasgow (2009) examine only the military turnover issue but find that withdrawal intentions, job withdrawal, organizational commitment, and military tenure consistently predicted voluntary turnover while there were inconsistent findings for happiness and comparisons for military and civilian work and lifestyles. Meta-analysis by Hom et al. (1992) suggested that the relationship between happiness and search for alternative employment was stronger in civilian than in military samples. This could be a result of the military's 20-year retirement plan. Some military members will not be searching for alternative jobs if they are striving towards a government retirement or if they are engaged in a contract. Air Force wide, the turnover rate is approximately 17.8% according to Maucione (2017). The Air Force current strength is

approximately 321,000 members, and 57,000 are expected to leave in 2018. This number does not include the amount of turnover from contractors or government civilians working for the Air Force. As mentioned before, the DoD as a whole is much larger than just one of its branches.

A study of accountants and nurses was conducted to test predictions concerning the determinants of job satisfaction, job commitment, and turnover in 1983. Time invested in the job was shown to exert greater impact on job commitment as time invested increased (Rusbult and Farrell, 1983). Accountants and nurses who stayed and those who left their jobs were shown by the study to differ from one another with regard to change over time. Those who left were experiencing "greater decline in rewards, increase in costs, increase in alternative quality, and decrease in investment size" than those who stayed (Rusbult and Farrell, 1983). Those that left were also reporting declining levels of commitment as time passed where those that stayed were not, or were increasing. Job rewards and alternative quality appear to affect the work experience from the beginning of employment onward. It was also found that, "in general, greater job satisfaction resulted from high job rewards and low job costs, whereas strong job commitment was produced by high rewards, low costs, poor alternative quality, and large investment size" (Rusbult and Farrell, 1983).

Current Surveys

One component of the DoD, the Air Force, conducts several surveys to attempt to determine how the work force is doing. The current 2018 Total Force Climate Survey (USAF SCN AF18-005TFCS) was scheduled to run from 27 August to 30 October and was voluntary and confidential. The results of the survey have not been publicly published and there has not been a more current survey scheduled. This is a census survey that is issued to every employee minus

contractors. Air Force organizations that conduct surveys have to obtain a Survey Control Number (SCN) and approval from the Air Force Survey Office. The Air Force Survey Office Chief at the Air Force Personnel Center (AFPC) stated,

> One of our top priorities is taking care of people. This means providing everyone
> the opportunity to perform their best in a healthy work environment. Historically,
> the Total Force Climate Survey is conducted every two to three years. The previous
> survey was conducted in March 2015 with an overall 23% participation rate.
> (Salomon, 2018)

In 2015, the Air Force had 307,326 members according to the Department of Defense's (DoD) Office of the Deputy Assistant Secretary of Defense for Military Community and Family Policy (2015). So roughly 82,979 members completed the survey. The margin of error was at a 95% confidence interval, with a z score of 1.96. With a small margin of error, there is more confidence that the survey respondents' answers are representative of the Air Force community. In July of 2017, the Air Force Survey Office distributed a Military Retention Survey of which the results have not be distributed. The results of the study, interpretation, and plan for improvement could possibly be related to this study.

The DoD requires a Defense Equal Opportunity Climate Survey (DEOCS) every year, but the survey can also be requested. This is only conducted on government employees and military personnel; contractors are not included. The survey consists of nine to ten demographic questions, but do not question education level, length of service, and other more detailed items. The second section of the survey focuses on the organizational commitment, senior leadership, organizational performance, group cohesion, trust in leadership, connectedness, job satisfaction, organizational processes, and engagement. The connectedness questions read similar to a suicide or mental health

evaluation with a clinical tone. The questions in the job satisfaction and engagement sections ask specific questions on a one to seven response scale such as: "I like my current job", "I feel satisfied with my current job", "I am happy with my current job", "I am enthusiastic about my work", "Time flies when I am working". The job satisfaction section is the most intriguing in its relevance to this study; however, it is one section of many and not the focus of the survey. The survey also asks questions about discrimination, bullying, hazing, and sexual harassment (Defense Equal Opportunity Management Institute, 2017). This survey can also have a limited number of questions added to it by the leadership as it passes through the command levels. The results of this survey are then distributed to division chiefs who will use the results to mentor and guide their unit leadership. Leadership then typically reviews the results with their workforce and publishes a plan for improvement. This could be accomplished at a unit-wide meeting where results are reviewed and leadership verbalizes a path towards improvement. There is currently no DoD wide survey or climate study that is standardized across all branches and applied to employees, military members and contractors. The aim of this study is to develop a survey and method of survey which will close that gap.

Chapter III

The purpose of this chapter is to explain the survey itself. General concepts of survey reliability and proper survey methods are covered with their relevance to this research. The questions chosen and why will be discussed in this chapter, along with the method of conducting the survey. The survey was conducted in this study in a method that would not be recommended for future studies. The survey was conducted using an online source which was convenient for respondents while at work or away; however, it ultimately failed to yield extensive data. Thus, a systematic method for producing adequate data to be analyzed in order for management to adapt their approaches to employee wellbeing is explained.

Survey Reliability

Development of the survey for reliability and accurate results is vital for an overall valuable research study. Reliability is a fundamental component of accuracy. It is desired that statistical measures produce the same results when carried out under the same circumstances. This is essential if the measure is to be able to be used to distinguish between changes in it due to a genuine variation in the condition being measured as opposed to variations that simply represent measurement error. There are two main ways to measure reliability; these are test-retest reliability and internal consistency reliability (OECD, 2013). Test-retest reliability will administer the same question to the same respondent multiple times separated in time. This will place a lower bound on the reliability of the measure where a low test-retest score could indicate that the measure lacks reliability or a high level of actual reliability and a genuine change. Internal consistency reliability concerns the extent to which different items on an overall scale or measure agree with one another and is assessed through examination of inter-item correlations. High correlation between two

44

items suggests that the two measures capture the same underlying concept, but if the correlation is low, it is not necessarily the case that both measures are poor (OECD, 2013). The Organization for Economic Co-operation and Development (OECD) is an intergovernmental economic organization with 36 member countries, founded in 1961 to stimulate economic progress and world trade. The OECD guidelines on measuring subjective well-being were developed in order to provide support to national statistical offices and other producers of data in designing, collecting, and publishing measures. Maximizing data quality by minimizing the risk of bias is the priority of the survey development. A secondary concern is data comparability between groups of respondents. Consistent measurement approaches are used to limit variance introduced by differing methodologies.

The day of the week in which the survey is distributed and the day-to-day events occurring around the time of survey can influence affective measures but should not be counted as errors. Rare or significant events can impact life evaluations, but this is why the survey will be distributed multiple times in order to sample over multiple days (OECD, 2013). The survey conducted for this study was distributed via an online link that could be accessed and completed at the respondent's will. The system proposed later in this study recommends conducting the survey face-to-face over multiple days. The survey will be conducted on a different day of the week each time. This will help to reduce possible error induced by conducting the survey on a Monday after a long break from work; it will also provide data on the consistency of responses that can be correlated. A meta-review of the reliability and validity of subjective well-being measures reported a Cronbach's alpha for multiple item measures of life satisfaction of 0.8 and 0.96. A value of 0.7 is typically taken to be the threshold of acceptable convergence (Diener, 2011). Additionally, Kruger and Schkade (2008) reported test-retest scores in the range of 0.83 to 0.84

for a period of two weeks to one month between tests, with correlations declining to 0.64 at two months and to 0.54 over 4 years. This showed that as larger amounts of time went by, there was a greater chance for more genuine change to occur in the respondent's answers (Kruger and Schkade, 2008).

The response format can affect the data quality, and there is empirical support for using a zero to five-point numerical scale anchored with a phrase. There are two types of phrase scales, unipolar and bipolar. Unipolar scales are used in the case of affect measures. The continuous scale is focused on only one dimension using a descriptive phrase such as "never/not at all" through to "all the time/completely." For conceptual reasons, it is helpful to measure positive and negative affect separately rather than combining them in the single bipolar scale. The bipolar scale is used for life evaluations and eudaimonia where the evaluative question cannot be negatively framed (OECD, 2013).

Question order should flow from the general to the specific. This helps to prepare the respondent by buffering the impact of the context to prevent overly passionate answers. Consistent ordering of positive and negative affect questions is used to reduce the risk that asking negative questions first may bias subsequent responses to positive questions and vice versa. To guard against bias brought in by response styles, principles are employed that minimize the risk of respondents relying on characteristic response styles or heuristics to answer questions. To do this, questions were developed that are easily translated, understood, and minimally burdensome on memory, while promoting respondent continuance motivation.

Variables and Questions

There were several variables considered for the study. These are listed below. Accompanying these variables is a substantial list of questions which explore each topic. This list of questions and their source authors can be found as Appendix A. That list was narrowed and consolidated to develop the final list of questions. A summarized list of these 194 questions that were considered for this survey is included as Appendix B. This information is included in the instance that future studies desire to hone in on more specific variable testing.

Demographic Variables
- Age
- Children
- Children living at home
- Education Level
- Gender
- Marital Status
- Promotions
- Awards
- Religious
- Time Served
- Salary

Test Variables:
- Empowerment
- Intrinsic Motivation
- Job Design
    - Rewards
    - Specialization
    - Task Simplicity
    - Variety
    - Autonomy
    - Task Significance
    - Meaningfulness
    - Responsibility
    - Skill discretion items
    - Decision Authority
- Job Involvement
- Job Satisfaction
    - Satisfaction with Job Security
    - Satisfaction with Co-Workers
    - Satisfaction with Supervision

- o Promotion Satisfaction
- o Own Feelings about Job
- Organizational Commitment
- Pay Satisfaction
- Perceived Ability-Job Fit
- Perceived Organizational Support
- Person-Organization Fit
- Needs-Supplies Fit
- Demands-Abilities Fit
- Manifest Needs
  - o Need for Achievement
  - o Need for Affiliation
  - o Need for Autonomy
  - o Need for Power
- Self-Esteem
- Trust
- Turnover Intentions
- Work Centrality

The following questions were developed from the aforementioned list of questions to survey the DoD members in order to determine demographic and characteristics as well as related levels of happiness. Core questions on subjective well-being, happiness, and job satisfaction are placed before the demographic questions. This prevents respondents from using them as a heuristic for determining their response to the core question (OECD, 2013). This list of questions was substantially reduced from the list in Appendix B due to the total time three test respondents took on the initial survey. The current list of questions used were tested to take an average of 11 minutes for a test respondent to complete. The questions used in this survey were administered virtually over an online client, but they could be used in the in-person testing method which is proposed below as well. The survey presented as three pages, the first two being related to the test variable and the last being demographic. As mentioned before, the response scale used for the questions was the five-point Likert scale which is widely accepted for research studies of human

subjects. This scale remained the same for each question to increase respondent familiarity and efficiency. The scale consisted of the following possible answers:

1 – Strongly Disagree

2 – Disagree

3 – Neither Agree nor Disagree

4 – Agree

5 – Strongly Agree

The questions were all mandatory for the respondent to complete before being allowed to advance to the next page. The list of survey questions is shown below in the order in which they appeared to the respondents.

1. The work I do is very important to me.

2. My job activities are personally meaningful to me.

3. My impact on what happens in my department is large.

4. I feel a great sense of personal satisfaction when I do my job well.

5. Doing my job well increases my feelings of self-esteem.

6. I feel bad and unhappy when I discover that I have performed poorly on this job.

7. My own feelings generally are not affected much one way or the other by how well I do on this job.

8. There are opportunities for advancement to higher level jobs.

9. The job provides for feelings of achievement and task accomplishment.

10. The job allows participation in work-related decision making.

11. The pay on this job is adequate compared with the job requirements and with the pay in similar jobs.

12. The job is highly specialized in terms of purpose, tasks, or activities.

13. My education allows me to perform the specialized tasks of this job.

14. The tasks are simple and uncomplicated.

15. The job requires relatively little skill and training time.

16. The job requires performing the same activity(ies) repeatedly.

17. There is high variety in my job.

18. The tasks I perform in a typical work day are very similar.

19. I have the opportunity to do a number of different things at work.

20. I am left on my own to do my own work.

21. I am able to act independently of my supervisors in performing my job function.

22. I am able to do my job independently of others.

23. The results of my work are likely to significantly affect the lives or well-being of other people.

24. This job is one where a lot of other people can be affected by how well the work gets done.

25. The job itself is very significant and important in the broader scheme of things.

26. Most of the things I have to do on this job seem useless or trivial.

27. The work I do on this job is very meaningful for me.

28. The organization values my contribution to its well-being.

29. It's hard, on this job, for me to care very much about whether or not the work gets done right.

30. I feel a very high degree of personal responsibility for the work I do on this job.

31. I feel I should personally take the credit or blame for the results of my work on this job.

32. This is a high skill level position.

33. I am required to learn new things.

34. My job requires creativity.

35. The most important things that happen to me involve my work.

36. I live, eat, and breathe my job.

37. I am very much personally involved in my work.

38. I feel comfortable with the amount of job security I have.

39. If the organization has to cut employees, I will be safe.

40. I am happy with how secure things look for me in the future in this organization.

41. I enjoy the people I talk to and work with on my job.

42. I have the chance to get to know other people while on the job.

43. I have the chance to help other people while at work.

44. I am happy with the degree of respect and fair treatment I receive from my boss.

45. The amount of support and guidance I receive from my supervisor is adequate.

46. I am happy with the overall quality of supervision I receive in my work.

47. There is too little chance for promotion on my job.

48. Those who do well on the job stand a fair chance of being promoted.

49. People get ahead as fast here as they do in other places.

50. I am satisfied with my chances for promotion.

51. Generally speaking, I am very satisfied with this job.

52. I am generally satisfied with the kind of work I do in this job.

53. I frequently think of quitting this job.

54. I do not feel like "part of the family" at my organization.

55. I do not feel any obligation to remain with my current employer.

56. I would feel guilty if I left my organization now.

57. I am satisfied with my take-home pay.

58. I am satisfied with my benefit package.

59. I am satisfied with my most recent raise.

60. I feel that my work utilizes my full abilities.

61. The tools, procedures, materials, and so forth, used on this job are highly specialized in terms of purpose.

62. I would be very happy to spend the rest of my career with this organization.

63. I feel competent and fully able to handle my job.

64. My job gives me a chance to do the things I feel I do best.

65. The organization strongly considers my goals and values.

66. The organization really cares about my well-being.

67. The organization cares about my general satisfaction at work.

68. The things that I value in life are very similar to the things that my organization values.

69. My personal values match my organization's values and culture.

70. There is a good fit between what my job offers me and what I am looking for in a job.

71. The match is very good between the demands of my job and my personal skills.

72. My abilities and training are a good fit with the requirements of my job.

73. My personal abilities and education provide a good match with the demands that my job places on me.

74. I do my best work when my job assignments are fairly difficult.

75. I take moderate risks and stick my neck out to get ahead at work.

76. I try to avoid any added responsibilities on my job.

77. When I have a choice, I try to work in a group instead of by myself.

78. I pay a good deal of attention to the feelings of others at work.

79. I prefer to do my own work and let others do theirs.

80. In my work assignments, I try to be my own boss.

81. I consider myself a "team player" at work.

82. I try my best to work alone on a job.

83. I avoid trying to influence those around me to see thing my way.

84. I find myself organizing and directing the activities of others.

85. I often feel inferior to most people I know.

86. I often feel that I am a worthless individual.

87. I often feel confident that my success in my future job or career is assured.

88. Most managers are honest and truthful about information to do with the job.

89. Most managers are sincere in their attempts to meet the work's point of view about the job.

90. I believe that most managers will keep their word about rewards offered for completion of

   a task.

91. I believe what I am told by management about future plans for the company.

92. Most managers are incompetent at managing the workers.

93. Management shows good judgement when making decisions about the job.

94. Most managers do not understand when a worker should be rewarded for a job well done.

95. I believe that managers apply the same rules for all workers.

96. I believe management treats workers fairly.

97. Management can be relied upon to reward workers for their achievements.

98. My actions are supported by the manager in charge of the job.

99. I can rely on management to try to help me out when I run into difficulties with the job.

100. Management takes the credit for success without acknowledging the workmen's contribution.

101. Management listens to my suggestions about how the job should be done.

102. Most managers do not openly share ideas and information about the job with the workmen.

103. Most managers have shown that I can express my opinions and not hold them against me.

104. Management openly shares information about future plans.

105. Management respects my ability and knowledge of the job.

106. Managers treat workers doing the job with respect.

107. Managers respect my view when planning a job.

108. I have already told management when I'm leaving this organization.

109. I know when my last day will be at this organization.

110. I plan to quit this organization within 0-4 months.

111. If something else bad happens, I will quit this organization.

112. As soon as I get another acceptable job, I will quit.

113. If I get another job that pays better, I will quit this organization.

114. I want to leave this organization very much.

115. I am thinking about quitting right now.

116. I think of quitting every time something goes wrong.

117. In my view, an individual's personal life goals should be work oriented.

118. The major satisfaction in my life comes from my work.

119. I have other activities more important than my work.

120. Overall, I consider work to be very central to my existence.

121. I strive to be "in command" when I am working in a group.

122. Which age group do you fall in?

   18-24, 25-34, 35-44, 45-54, 55-64, 65+

123. What is your gender?

   Female, male

124. What type of employee are you?

   Contractor, government civilian, military member

125. How many years have you worked at your current organization?

   0-2, 2-4, 4-6, 6-8, 8-10, 10-12, 12-14, 14-16, 16+

126. How many promotions have you gotten at your current organization?

   0, 1, 2, 3, 4, 5+

127. How many awards have you gotten at your current organization?

   0, 1, 2, 3, 4, 5, 6+

128. What is your Marital Status?

   Single, married, separated/divorced, widowed

129. Do you have children?

   Yes, no

130. If you have children, how many?

   0, 1, 2, 3, 4, 5+

131. If you have children do any of them still live at home?

   Yes, no

132. What is your education level?

   None, high school/GED, some college or certifications, associate's degree, bachelor's degree, master's degree, doctorate degree

133. What is your bi-weekly take home pay after tax?

   $0-500, $500-1000, $1000-1500, $1500-2000, $2000-2500, $2500-3000, $3000-3500, $3500-4000, $4000-4500, $4500-5000, $5000-5500, $5500-6000, $6000-6500, $6500-7000, $7000+

134. How religious are you?

   0-100 sliding scale with 100 being the highest.

System Description

As mentioned, the online survey is not recommended as the best method for collecting data. Therefore, a systematic study was performed to discover the best method of collecting data which will yield responses from the maximum number of employees. This method is much more active than the passive online survey. It would require all units of the DoD to conduct it and report their findings to develop a full department picture, which is a much larger endeavor. Units are free to take this model and use it independently of the department to determine the well-being of their employees.

The system model described in this report is specifically for the collection of the data needed to support the possible findings. At a minimum, it requires the following three testing conductors: data collector, data correlator, and manager. An activity diagram was developed depicting the processes of collecting data on employees, analyzing it, and acting on it. In the first swim lane, the data collector will ask the employee questions or present them on paper, determine demographics, and examine historical productivity numbers. This process can be repeated until enough data is collected to be representative of the workforce or until there are no more willing participants. Once there is enough data, the second swim lane activates where the data correlator will determine if relationships exist. This is a separate person from the initial data collector to minimize influence on skewing the data. The first step for the data correlator is to look for simple, direct relationships across employees. For example, if all the data shows that happiness increases as salary increases, that would be a direct relationship that would be plotted. However, there is also more complicated data to correlate usefully. If the gender demographic correlates to all males being less happy than females then that is useful, but not actionable. The manager will not be able to make all their employees become female to be happier at work. However, the information tells

the employer that a disparity in productivity, retention, or happiness from ideal levels is not necessarily caused by their inaction. Thus, the variables of gender, age, marital status, number of children, religiousness, years committed education level, and age of children will feed a second layer of correlation. Once these correlations or lack of correlations are determined, the results are moved to the last swim lane. In the last lane, the manager will attempt to tweak controllable variables to enhance employee happiness. The process would then be repeated and employees are resurveyed to determine if the manager's changes had any noticeable effects. This process is shown in a simplified diagram as Figure 5.

The process that occurs as outlined above has inputs, such as employee demographics, employee perceptions, and employee statistics as perceived by the employer. The outputs of the above process will be the collection of the above data associated to each employee, the correlation of each item to the employee's happiness, and finally the manager's changes to adapt the inputs of the employee in an attempt to increase the employee's happiness. The decision that has to be made is what to attempt correlation on. First, each input is compared to each employee's reported happiness level to determine if a correlation exists. Such as, older employees, are reporting higher happiness. Second, and more complicated, is the next layer of correlation. This occurs when two or more inputs when put together show a correlation with the reported happiness levels of employees. These correlations and results of the process would need to be presented to the manager in an easily digestible way. Such that it is clear in determining what is and is not influential.
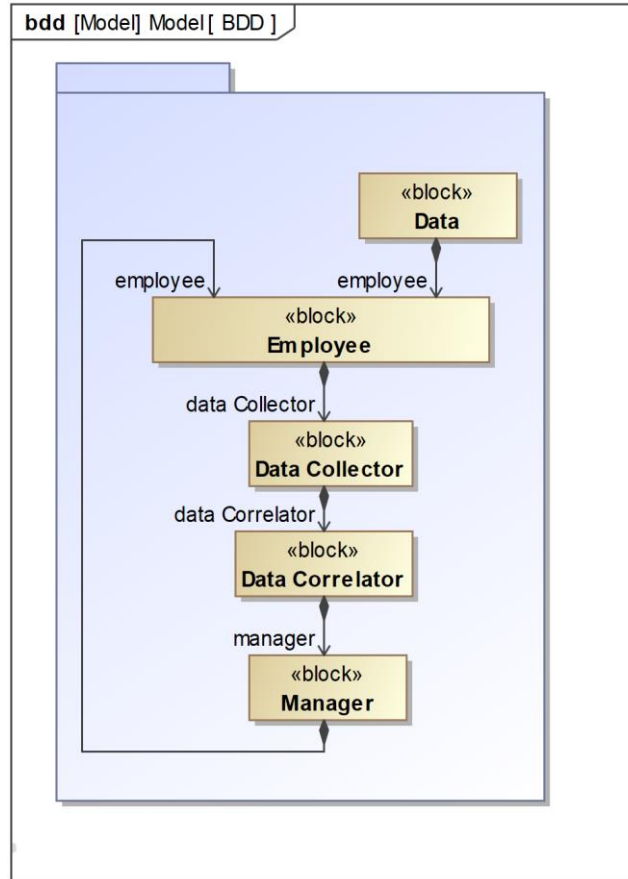
Figure 5: High level Block Definition Diagram showing the basic concept of data flow through the model

Baseline Task Network and Description

The conceptual task Network was built in Cameo and is shown as Figure 6. The Task Network was simplified down to four main variables of possible impact to the employee's happiness for Imprint software where the Conceptual Model in Cameo was much larger. This model would be applicable if a unit desires to do a more pointed examination of the employees. Since Cameo was attempting to conglomerate many variables to come to conclusions accurately, there were several merge nodes and loops that were not needed in the Imprint model shown as Figure 7.
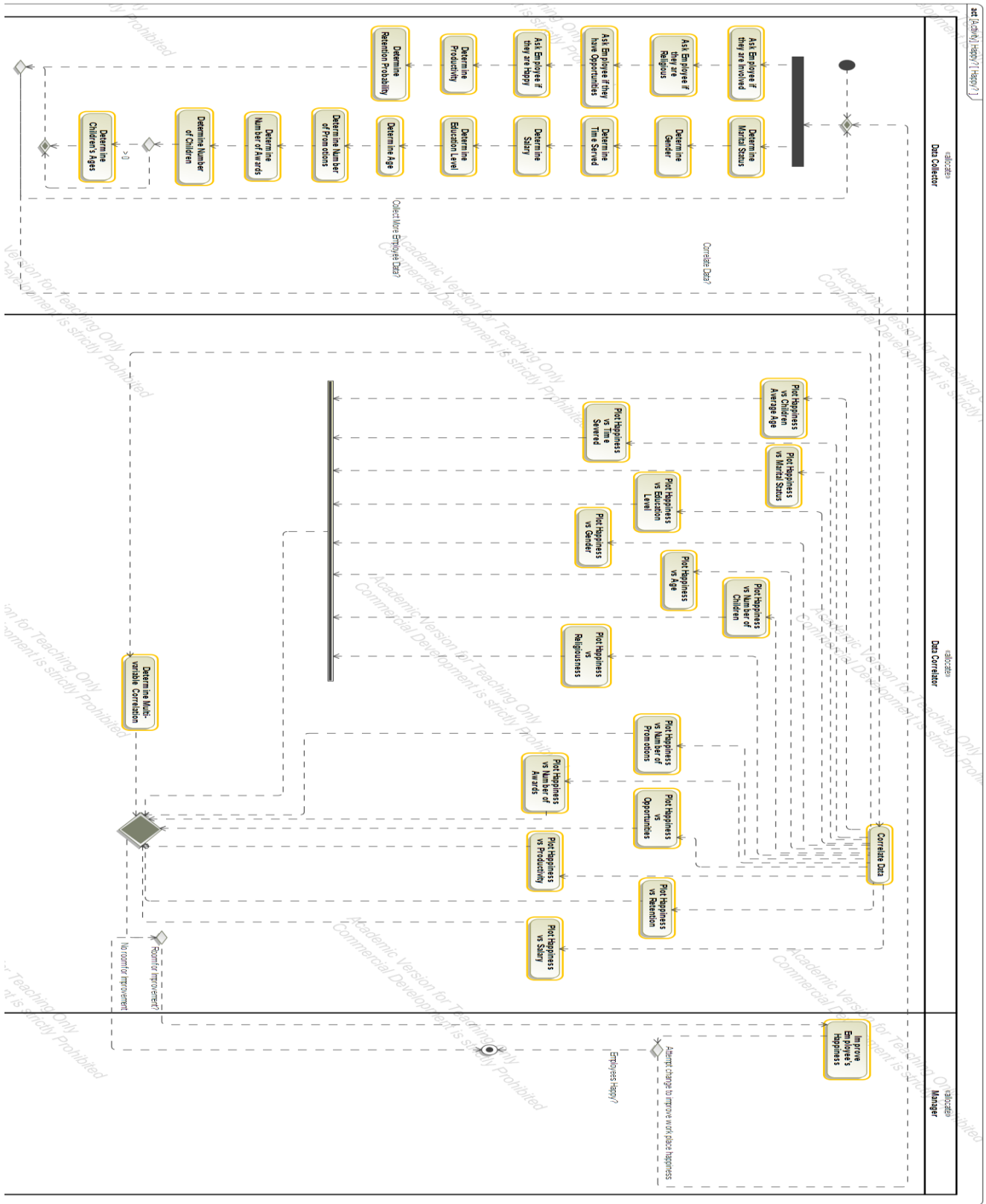
Figure 6: Cameo Task Network baseline model before simplification

0 Model START

Data Collector
- 5 Ask employees if the are happy
  - 6 Ask employees if they feel they are involved?
  - 7 Ask Employees what their salary is
  - 8 Ask employees if they have opportunities?
  - 9 Ask employees how long they have worked at the organization
    - 10 Pass independent and dependent information to correlator

Data Correlator
- 13 Correlate inputs from collector
  - 21 Involvement has strong R^2 with happiness
  - 22 Salary has strong R^2 with happiness
  - 23 Opportunity has strong R^2 with happiness
  - 24 Time served has strong R^2 with happiness
- 14 Package in understandable protected format for manager
- 15 Pass to manager

Manager
- 16 Interpret happiness data
  - 19 Continue current trajectory
- 18 Attempt change to increase happiness
  - 4 Employees deemed happy
- 20 Direct iteration on survey to determine change effectiveness
- **999 Model END**

Figure 7: Imprint Task Network baseline model showing simplified model with less variables

The model that has been developed is made to show the flow of data from collection to correlation, to interpretation, and finally to action. The model is segregated into three main sections. The first is the data collector who will ask the employees five questions. The collector will collect the independent variable information on involvement, salary, opportunities, and length of service. They will also ask the employee if they are happy, thereby quantifying the dependent

60

variable. Each question is on a five-point scale bounded by aword phrase as the online survey was. This information is binned for each employee. The second section is then activated when the data is passed to the data correlator. The correlator will correlate the inputs of the independent variable data against the dependent variable of individual happiness, looking for an R squared value higher than 0.35 to suggest significant correlation of each individual's independent versus dependent data. Four plots will be produced that show each employee's data for one independent variable versus the dependent variable. This will allow trends to be seen. The correlator will then pass the information to the third and final section of the model, the manager. The manager will interpret the data and plots to determine if the employees are happy enough or cannot be made happier, or if there should be some attempt to increase the overall happiness level of the employees. If the employees are determined to be happy, the model ends. If the employees are not happy, then the manager will implement some type of change based on the relationship of the independent and dependent variables and the model will repeat to measure for effectiveness. Managers and leaders will have to interact with their employees to determine what will be effective and these methods are being expanded to show the process and provide a basis for the manager's situation. Table 2 below outlines additional assumptions for the data collection model:

Table 2: Additional assumptions table.

Assumption	Detail
System Boundary	The items inside the system boundary are the variables listed above, the employees, and the three operators. The system does not currently include additional variables but can be expanded to capture more possible correlations to allow better course correction.
External Influences	The external influences that could affect the system are all the variables that are not measured by it. This could include things such as marital status, number of children, number of awards at work, possible sexual harassment complaints, and more. These items could be work or external to work and would have some impact on the five variables explored and correlated by this model without being captured by the model.
Environmental Characteristics	The environmental characteristics in which this system operates are extremely diverse as they can be any factor that the employee is subject to at work or away from work. To attempt to limit the limitlessness of the environment it will be constrained to the work place.
Errors	The first possible error is from employees incorrectly answering the questions using the scale or attempting to use an entry other than a whole number from one to ten. This error is mitigated by having a data collector to facilitate. The data collector in this study is an online survey tool
Task Times	The durations above in the data collection plan are only estimations, and do not represent constraints or minimums. The size of the data and differences in efficiency of the three action officers will change the durations when this system is applied to other organizations with different individuals tasked. The durations also cannot be adequately constrained with probabilities without introducing inaccuracies due to the lack of available data. A manager might only need a day to implement change or they could need years due to multiple reasons. For this course the durations below will be used and the data from each employee from the survey collections will be random simulated data. The task timing for asking the questions of each employee are also set to 30 seconds because it is assumed that the data collector will ask the question and allow for a numerical scale response with minimal elaboration.
Workflow	It is assumed that the outlined model flow will be followed by the three operators. The model will not work if the flow is not followed.

Task timing was set for the model using triangular distributions and the best available information for bounding. The task timing for each of the five questions the data collector will ask the employee is set using a triangular distribution with a minimum of 30 seconds to ask and receive the answer, a maximum of 3 minutes, and a mode of 1 minute. This timing is based on the

average words per minute that the average person speaks with the addition of time for pauses and natural discrepancies of speech. The average is 137 words per minute or 2 per second (Gray-Grant, 2009). The task timing for the data collector's last task of passing the information to the correlator is expected to be accomplished electronically and will scale with the number of employees. A triangular distribution was set at a minimum of 5 minutes, a maximum of 1 hour, and with a mode of 20 minutes. The correlator's tasks are assumed to be accomplished electronically through a plotting software similar to Excel. Thus, there is not much variation of the timing for the first four tasks. They are set to be no more than an hour, no less than 10 minutes, with a mode of 30 minutes on a triangular distribution. Packaging the information is expected to be done with a prebuilt macro to export the data to a report and should take no more than 30 minutes, no less than 5 minutes, and with a mode of 10 minutes. This allows for review of the report for errors. The last correlator task is the passing of this report electronically to the manager and should not take longer than 5 minutes, with a mode of 3 minutes and a minimum of 1 minute. The last section, the manager, has the largest ranges on their task times. The first task the manager performs is interpreting the data and this can take from 10 minutes to 3 days with the mode being set at 3 hours. Depending on the probability of the interpretation task logic, which is set at 50/50 for baseline but randomly determined, the task flows into one of two options. The code for this is established at the beginning of the interpret task as a random number between 0 and 1, and if the number is above 0.5 the employees are considered happy otherwise, they are considered to not be happy. If deemed happy the current actions are continued, and the model is exited. These two actions are set to take one second apiece since the interpretation and decision is made in the prior task. If the opposing path is taken, the employees were determined to not be happy enough by the manager. This will lead to the task of attempting change to increase happiness. This task has the

broadest range of any in the group. The change could be very fast and simple or could take many days to acquire funding and capability to implement sufficient change. This is set with a minimum of 1 day, a maximum of 30 days, and a mode of 5 days. If the change takes longer than 30 days, the reevaluation of the employee happiness could be skewed by too many other factors to say with any accuracy that the change, either positive or negative, is related to the change implemented by the manager. Once a change is made, the manager's final task is to loop the model back to reevaluate for effectiveness of the change on their employees. This task is assumed to be an order and done via email; thus, the triangular distribution is set at 5 minutes, with a mode of 3 minutes and a minimum of 1 minute. The resources assumed for each interface are shown in Figure 8, and there were assumed to be no conflicting resources for this baseline model. Workload for each task was implemented based on the level of complexity the member would have to be capable of in order to complete the task.

Interfaces	Resources						
	Auditory	Cognitive	Fine Motor	Gross Motor	Speech	Tactile	Visual
Collector	✓	✓	✓	☐	✓	✓	✓
Corelator	☐	✓	✓	☐	☐	✓	✓
CrewStation	☐	☐	☐	☐	☐	☐	☐
Manager	☐	✓	✓	☐	☐	✓	✓

Figure 8: Resources assumed for each user and their interfaces

Data Description

To create a valid discrete event simulation, the first data that will be needed is the numerical scale data from the data collector surveying each employee. This information is on a one to five scale where five represents the strongest agreement with the question or statement. For example, when asking an employee if they are happy, they would respond with a five, or strongly agree, if

they are the happiest possible. Since each person is driven by different motives, what will make them happy differs. Thus, it is not feasible or accurate to say that a four on the happiness scale is equivalent to the feeling of a surprise birthday party and a five is equivalent to finding a $100 bill on the street. Since equating it in that way is not possible, the next best explanation is to take the inverse of a widely used pain scale from the medical community if a respondent is struggling to decide. This scale is shown Figure 9. This somewhat bounds the happiness scale if inversed, but still leaves it open to interpretation by the respondent. Figure 9 has been adapted to a happy scale and shown as Figure 10.
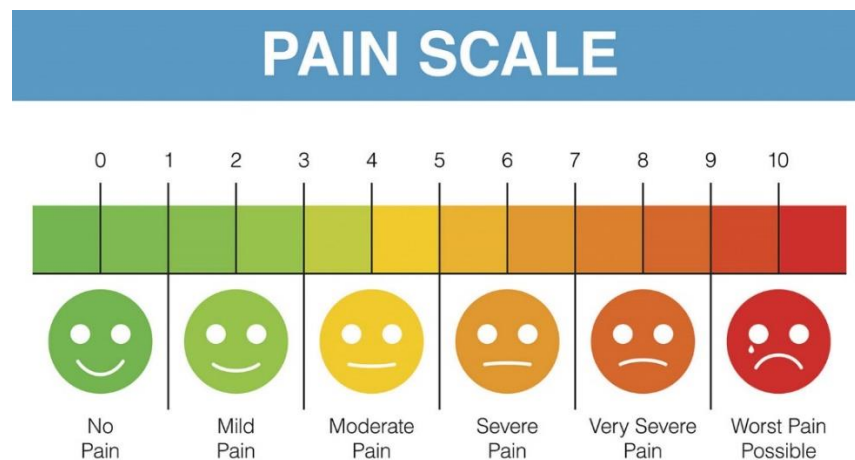
Figure 9: The medical pain scale adapted from Harvard School of Medicine https://www.hea lth.harvard.edu/pain/the-pain-of-measuring-pain

HAPPY SCALE

0   1   2   3   4   5   6   7   8   9   10
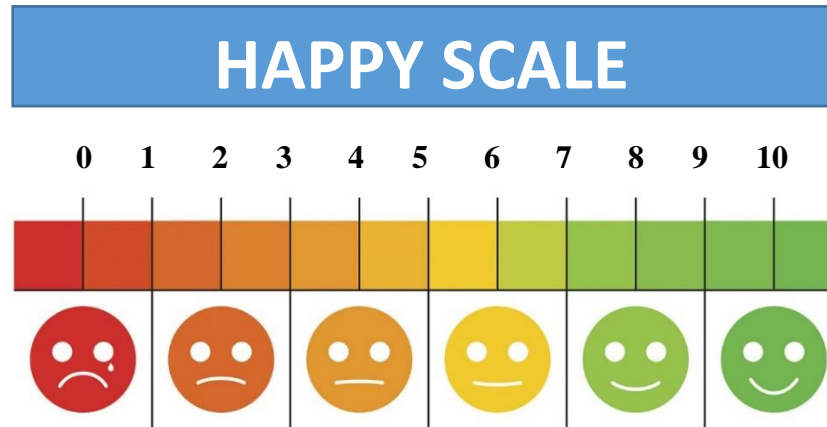
Figure 10: The happy scale adapted from Harvard School of Medicine's pain scale
https://www.hea lth.harvard.edu/pain/the-pain-of-measuring-pain

The data collector will have a set of five numbers, one through five possible, representing each of the questions to be asked. These sets of numbers are associated to the employee and the information is electronically passed via email to the correlator as one data file. The data correlator can take that numerical data and develop correlation plots. The correlator will calculate if each independent variable has a strong enough R squared value when correlated with happiness to suggest possible correlation. It is accepted for the social sciences that an R squared value of greater than 0.35 would suggest meaningful correlation. If the R squared value is shown to be meaningful for the correlation, the plot and data will be highlighted in the correlator's report. The plots showing weaker R squared values will still be shown for completeness of the study. Once the correlator determines which plots are relevant, they will compile the graphical data and pass to the manager electronically as a report.

The manager then takes the report as an input and interprets it to deduce an opinion on if the current trajectory should be continued or if changes should be made. The changes are driven by the interpretations of the data and these actions are executed for one month before the manager directs the study to be conducted again for possible data variation from the first iteration. If nothing

is changed, then the employees are determined to be happy and the system exited. It is not accurate to state the durations in Table 3 without a disclaimer. The durations are only estimations and do not represent constraints or minimums. The size of the data and differences in the efficiency of the three action officers will affect the durations when this system is applied to other organizations with different individuals tasked. The durations also cannot be adequately constrained with probabilities without introducing inaccuracies due to the lack of available data. A manager might only need a day to implement change or they could need years due to multiple reasons. For this alternative the durations in Table 3 will be used and the data from each employee from the survey collections will be random simulated data.

A sufficient threshold for happiness will be set at a value of four or better on the five-point Likert scale. Below a three will be considered in danger. This will allow the correlator to correlate variables more accurately for translation to the manager. The model can recommend where to make adjustments before starting over after adjustments are made. If multiple iterations of improvement have to be made, measurements will be taken to determine how long (months, years, etc.) and how many iterations it takes to get above a certain percentage of people in the sufficient category, above the area of concern. Alternative models can be tried to try to reduce the timeline or maximize the percentage. Table 3 shows the baseline taskings for the model.

Table 3: Baseline model task timing, units, methods, and responsible parties

Task	Duration	Data Type	Unit	Method	Action
Model Start	0 sec	N/A	N/A	N/A	N/A
Ask employees if they are happy	30 sec	Numerical Scale	1-10	Survey	Collector
Ask employee if they feel involved	30 sec	Numerical Scale	1-10	Survey	Collector
Ask employee what their salary is	30 sec	Numerical Scale	1-10	Survey	Collector
Ask employee if they have opportunities	30 sec	Numerical Scale	1-10	Survey	Collector
Ask employee how long they have worked at the organization	30 sec	Numerical Scale	1-10	Survey	Collector
Pass independent and dependent information to correlator	30 min	Numerical	Whole Number	Electronic	Collector
Correlate inputs from collector	4 hours	Numerical	Whole Number	Plot	Correlator
Involvement has strong R^2 with happiness	10 min	Graphical		Computation	Correlator
Salary has strong R^2 with happiness	10 min	Graphical		Computation	Correlator
Opportunity has strong R^2 with happiness	10 min	Graphical		Computation	Correlator
Time severed has strong R^2 with happiness	10 min	Graphical		Computation	Correlator
Package in understandable protected format for manager	2 hours	Graphical		Compilation	Correlator
Pass to manager	30 min	Report		Electronic	Correlator
Interpret happiness data	1 day	Opinion		Interpretation	Manager
Continue current trajectory	0 sec	N/A		Decision	Manager
Attempt change to increase happiness	1 month	Actions		Decisions	Manager
Employees deemed happy	0 sec	Judgement		Decision	Manager

Direct iteration on survey to determine change effectiveness	30 sec	Order		Direction	Manager
Model End	0 sec	N/A	N/A	N/A	N/A

Validation

The baseline model has to be validated to allow for the model to be used in alternative methods. Validation is the process of comparing two or more results. In this process, we need to compare the representation of a conceptual model to the real system. The simulation model is valid only if the model is an accurate representation of the actual system. If the model is not valid, then using any results from the model will result in inaccurate decisions being made. A null hypothesis is a hypothesis that says there is no statistical significance between the dependent and independent variables in the hypothesis. It is the hypothesis that is trying to be disproved, where we are trying to disprove that there is not a statistical significance between happiness and the four chosen independent variables. An alternative hypothesis simply is the inverse, or opposite, of the null hypothesis. This would be that there is a statistical significance between the independent and dependent variables. Typically, validation is done of the response (or dependent) variable. Sometimes it is not possible to do so; therefore, an alternative system level behavior is validated. The goal is to fail to reject the null hypothesis of the model, which will show that there is insufficient evidence that the model differs from the real system. The actual data that the collector is getting from the employees will have to be validated according to survey question validation methods.

In the case of validating the above process time model, we are looking at a different null and alternative hypothesis. So, the hypothesis that is trying to be disproved for this model is that there is not a statistical significance between happiness and the overall process task time variable

of the model. An alternative hypothesis would be that there is a statistical significance between the overall process task time and happiness.

For this task time model, there is not current real-world data that can be input as a whole. This proposed system does not fully exist at the present nor has existed in the past, but the concepts are not necessarily farfetched or new. Therefore, there is no historical data available to compare to this model's performance. Hence, we have to use a hypothetical system based on assumptions. This model is different than the standard tasking model because it is showing the task model of collecting, analyzing, and acting on survey data. The survey questions and data associated with them will have to be separately validated from the task model shown above. This will be conducted using a pilot test where a small subset (approximately 10%) of intended survey participants are surveyed. The information used to build task timing assumptions and boundaries can be based on some real-world data. Task timing was set for the model using triangular distributions and the best available information for bounding. To do this, the types of tasks were categorized since there are some similarities. The first five tasks are all interrogative tasks where one person asks a short question and a second person responds. The task timing for each of the five questions the data collector will ask the employee is set using a triangular distribution with a minimum of 30 seconds to ask and receive the answer, a maximum of 3 minutes and a mode of 1 minute. This timing is based on the average words per minute that the average person speaks with the addition of time for pauses and natural delineations of speech. The average is 137 words per minute or two per second (Gray-Grant, 2009). With each question posed being less than ten words, it should take no more than 5 seconds to ask the question. The employee should be responding with even less words and should take no more than 5 seconds to answer. This would put the entire question task at approximately 10 seconds. This was corrected from previously reported timing. The next category

is a passing information task type. The workers in the model do this as task numbers 10, 15, and 20. The last category is the correlating category of determining if the independent variables have strong r-squared values. These two categories task times do not have historical real-world data that could be found but the same estimated mean duration was applied to each task in the category. The remaining tasks also could not be bounded using real-world information.

The standard deviation and sample size will allow a confidence interval to be built for each category of task and individual tasks. These confidence intervals can then be combined to give an overall task time confidence interval. To do this, the tasks are bounded with minimums and maximums. These timings have changed slightly from previously reported during the task timing assignment, but are shown in Table 4. These bounds are used by Imprint to vary individual task times in the model based on a triangular distribution over a course of 100 iterative runs to produce total model execution times. These 100 model run times can then be evaluated for standard deviation and mean to find a confidence interval at 95%. Individually though, the tasks may have run more than 100 times. The information from each task's timing can be used to build a confidence interval at 95% for each task. For the first simulation, the confidence interval for each task and the overall model is listed in Table 4.

Table 4: Baseline simulation of 100 iterations showing the confidence interval developed by the

Imprint software.

Task	Duration Mode	Min	Max	Mean	CI
Model Start	0 sec	N/A	N/A	N/A	N/A
Ask employee happiness question	10 sec	5 sec	1 min	25.40	00:00.1
Ask employee involvement question	10 sec	5 sec	1 min	25.10	00:00.1
Ask employee salary question	10 sec	5 sec	1 min	24.49	00:00.1
Ask employee opportunity question	10 sec	5 sec	1 min	23.39	00:00.1
Ask employee time served question	10 sec	5 sec	1 min	25.79	00:00.1
Pass information from collector	3 min	1 min	5 min	3:01.45	00:00.2
Correlate inputs from collector	30 min	10 min	1 hour	33:30.64	00:02.8
Involvement has strong R^2 with happiness	30 min	10 min	1 hour	33:34.33	00:02.8
Salary has strong R^2 with happiness	30 min	10 min	1 hour	33:26.22	00:02.8
Opportunity has strong R^2 with happiness	30 min	10 min	1 hour	33:43.11	00:02.6
Time served has strong R^2 with happiness	30 min	10 min	1 hour	32:56.09	00:02.8
Package in understandable protected format for manager	10 min	5 min	30 min	14:55.27	00:01.4
Pass information from correlator	3 min	1 min	5 min	2:59.62	00:00.2
Interpret happiness data	3 hours	10 min	3 days	24:58:52.63	04:18.8
Continue current trajectory	0 sec	0 sec	0 sec	N/A	N/A
Attempt change to increase happiness	5 day	1 day	30 days	276:37:17.74	54:02.7
Pass information from manager	3 min	1 min	5 min	3:03.82	00:00.3
Employees deemed happy	0 sec	0 sec	0 sec	N/A	N/A

Model End	0 sec	0 sec	0 sec	N/A	N/A
Entire Model Iteration	-	-	-	329:55:36.96	00:34.7

Table 4 shows which tasks are the least confident in their timing. This is shown by the larger confidence intervals. The final model has a long average duration, but a small interval, showing that we are fairly certain the model will be within 34 seconds of the average. However, this average is very large. To better effect the happiness of the employees, we would need to aim for a much faster turn-around on a change, implementation, and determination of being happy enough after two weeks. At a 70% confidence interval, there is not significant change to each task; however, for the entire model, the interval goes to 29 minutes 36 seconds. When in the hundreds of hours, shows that the model is still reliable. To reduce the long run time, we should look to reduce the larger confidence intervals of individual tasks by bounding them more tightly and shortening tasks if possible. This is done by the alternative models in a following section.

To validate the model, made we need to compare the model simulation estimations and confidence intervals with subject matter expert estimations of the task timing that would be needed. This SME data will depend on the organization where the model is being run; for this case, the SME data was estimated based on personal experience to develop minimums and maximums. Both of the above model runs fit the model confidence intervals within the SME data and thus should validate the model.

Experimental Design and Methods

The validation in the previous section shows that there are several areas for improving the model. The baseline model can and should be iterated to reduce the task time of the operators and

further expand the tasks to discover efficiencies. The first method is to further study the task times and to verify they are as accurate as possible. Secondly, if the task times for the entire task is not able to be better verified the task should be expanded. This means that the task should be broken into its component tasks. This is because these component tasks may be able to be explored further to find time savings through more accurate tasking times. Additionally, the sub-tasks may be found to not all be needed. These items should be iterated until the model is determined to show short enough average task timing to represent a helpful model. This process is important because the model is being developed for use by a generic DoD unit and needs to be fast and effective in order to ensure its use.

Alternative Model Description

The first alternative model will focus on the same response variable of employee happiness, but will add in additional stimulus (independent) variables of:

- Education Level
- Salary Amount
- Age
- Gender
- Religious
- Time Served
- Marital Status
- Children
- Children's Age
- Promotions
- Recognition/Awards
- Involvement

This will complicate the model and add additional tasks for the data collector and data correlator. This will more accurately represent what is desired by the study and will complicate the model while adding task time to the total. Happiness and the original independent variables

74

are all still measured by the same scales and the goal will be to see the threshold category change in a positive direction. The purpose of this alternative method is to show the up scaling of the model and not focus on the actual variables. This model is shown in Figure 11.

0 Model START$

Data Collector

5 Ask employees if the are happy$
6 Ask employees if they feel they are involved?$
7 Ask Employees what their salary is$
8 Ask employees if they have opportunities?$
9 Ask employees how long they have worked at the organization$
25 Ask employees what their education level is$
26 Ask employees how old they are$
27 Ask employees what gender they are$
28 Ask employees how religious they are$
30 Ask employees what their marital status is$
29 Ask employees how many children they have$
31 Ask employee how old their children are$
10 Pass independent and dependent information to correlator$

Data Correlator

13 Correlate inputs from collector $
21 Involvement has strong R^2 with happiness $
22 Salary has strong R^2 with happiness $
23 Opportunity has strong R^2 with happiness $
24 Time served has strong R^2 with happiness $
36 Education level has strong R^2 with happiness $
37 Age has strong R^2 with happiness $
32 Gender has strong R^2 with happiness $
38 Religion has strong R^2 with happiness $
33 Marital status has strong R^2 with happiness $
34 Number of Children has strong R^2 with happiness $
35 Age of Children has strong R^2 with happiness $
14 Package in understandable protected format for manager$
15 Pass to manager$

Manager

16 Interpret happiness data M
18 Attempt change to increase happiness $
20 Direct iteration on survey to determine change effectiveness $
19 Continue current trajectory $
4 Employees deemed happy $

999 Model END

Figure 11: Alternative model 1, increased variables in order to stress the model

The second alternative model focused on the manager's task of attempting to increase happiness. This is done because this is the most time intensive task of the model. The task will be broken up into several subordinate tasks to attempt to identify and delegate out the different task times in order to find hidden efficiencies that can be expounded upon. For this alternative case, the response and stimulus variables should be held the same as the baseline model shown above in Figure 3. The task networks to describe this alternative is shown as Figure 12.
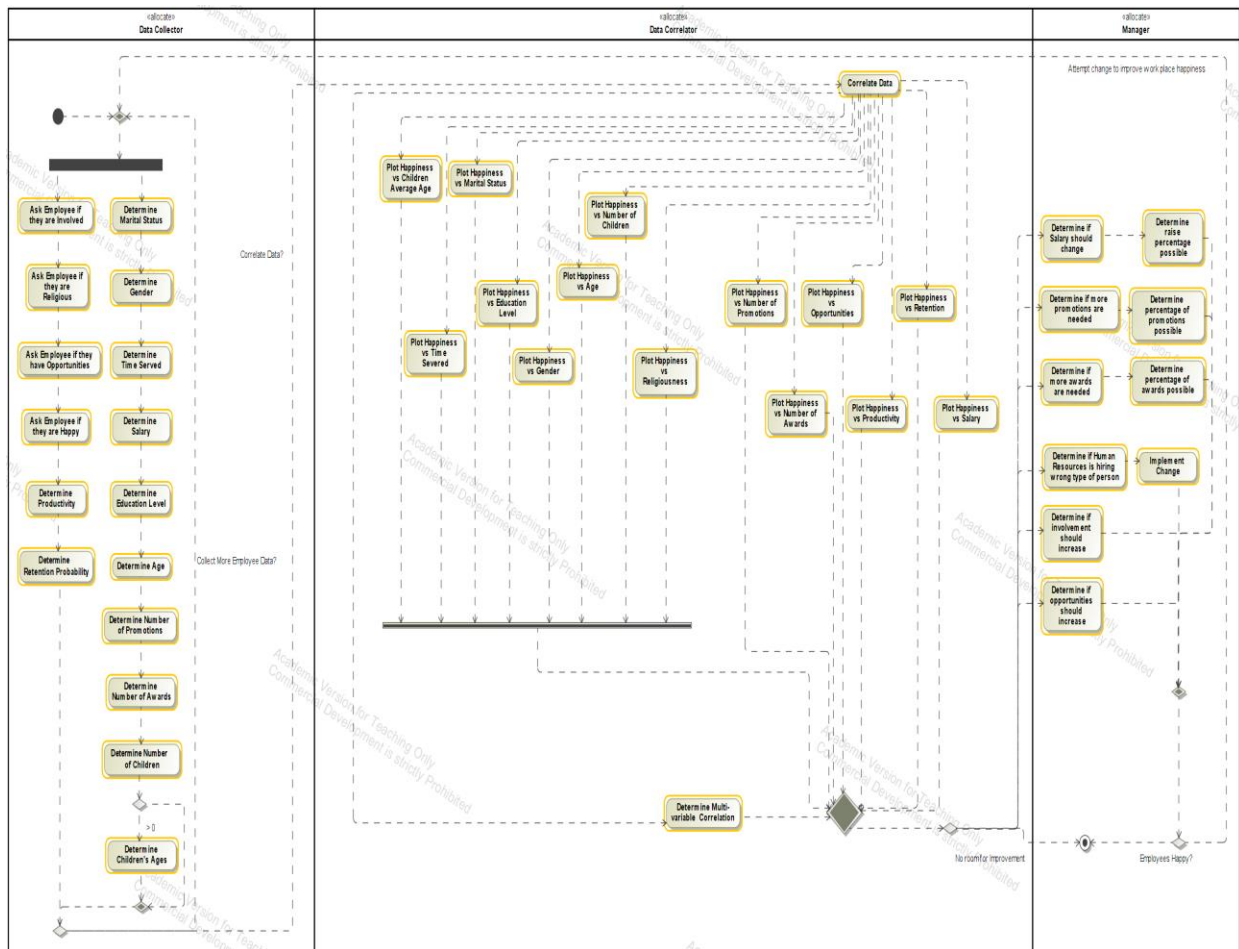
Figure 12: The second alternative model showing broken down manager's tasks

The portion that is changed is shown in Figure 12a. The independent variables that the manager might have some type of control over were broken out and explained with more detail than the previous single task stating "Attempt change to increase happiness." Now the idea is to

look at each effectible topic and decide how much change can be done, implement it, and iterate

the model to look for an increase in the level of happiness. The corresponding Imprint model is

shown as Figure 12b.
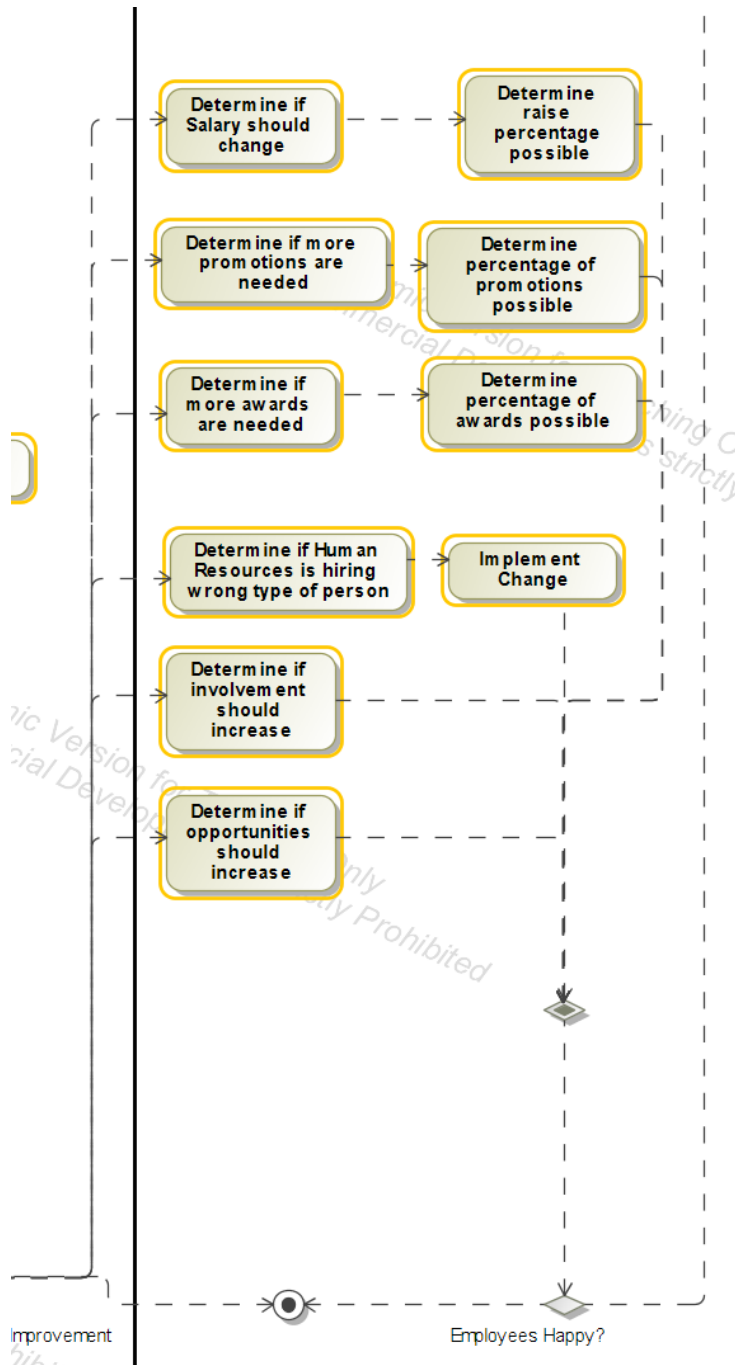
Figure 12a: Focused view of alternative model number two's changes to the manager tasks

0 Model START

Data Collector

5 Ask employees if the are happy

6 Ask employees if they feel they are involved?

7 Ask Employees what their salary is

8 Ask employees if they have opportunities?

9 Ask employees how long they have worked at the organization

10 Pass independent and dependent information to correlator

Data Correlator

13 Correlate inputs from collector

21 Involvement has strong R^2 with happiness

22 Salary has strong R^2 with happiness

23 Opportunity has strong R^2 with happiness

24 Time served has strong R^2 with happiness

14 Package in understandable protected format for manager

15 Pass to manager

Manager

16 Interpret happiness data

19 Continue current trajectory

25 Determine if salary should change

4 Employees deemed happy

28 Determine if raise percentage is possible

26 Determine if more promotions are needed

27 Determine percentage of promotions possible

29 Determine if more awards are needed

33 Determine Percentage of awards possible

31 Determine if human resources is hiring wrong type of person

32 Determine if involvement should increase

30 Determine if opportunities should increase

999 Model END

34 Implement Change

20 Direct iteration on survey to determine change effectiveness

Figure 12b: Imprint model of alternative two, additional managerial task breakdown

The third alternative model attacks the long task times. The tasks which took the longest time are the interpretation of the happiness data task and the attempt to increase happiness task. To reduce their lengths, it will be tested that hypothetically all managers in the system will be preemptively trained on interpretation of correlated data to more quickly understand plots. Also, correlators will be trained on a standard operating procedure for providing explanations which should allow the managers to more quickly interpret data. Thus, for the second model iteration of 100 runs, the manager's interpret data task maximum bound is reduced from 3 days to 1 day.

Output Analysis

The above alternative models were built into Imprint in order to run them 100 times, similar to the baseline model. The first alternate model has the addition of all the independent variables that would be needed. The model was restructured for the ease of reading. The timing for each additional event that was added is the same as those originally on the list and explained above. In order to validate the model, the same method above was used. The simulation results gave the CI values in Table 5. The questions that are added will need different scales for their answers that will be developed and used to prevent long answers from respondents. The purpose of adding them is for the timing comparison and to verify scalability of the model. The confidence interval is within the simulated SME data and is verified.

Table 5: Alternative model 1 simulation of 100 iterations showing the confidence interval

developed

				Time (HH:MM:SS.mm)	
Task	**Duration Mode**	**Min**	**Max**	**Mean**	**CI**
Model Start	0 sec	N/A	N/A	N/A	N/A
Ask employee happiness question	10 sec	5 sec	1 min	25.75	00:12.25
Ask employee involvement question	10 sec	5 sec	1 min	20.64	00:12.34
Ask employee salary question	10 sec	5 sec	1 min	25.01	00:12.09
Ask employee opportunity question	10 sec	5 sec	1 min	23.60	00:13.51
Ask employee time served question	10 sec	5 sec	1 min	24.33	00:12.36
Ask employee education question	10 sec	5 sec	1 min	24.65	00:12.47
Ask employee how old they are	10 sec	5 sec	1 min	23.70	00:12.25
Ask employee what their gender is	10 sec	5 sec	1 min	26.92	00:12.96
Ask employee how religious they are	10 sec	5 sec	1 min	24.31	00:12.32
Ask employee marital status	10 sec	5 sec	1 min	24.85	00:12.48
Ask employee if they have kids	10 sec	5 sec	1 min	24.89	00:12.37
Ask employee how old the kids are	10 sec	5 sec	1 min	24.89	00:12.52
Pass information from collector	3 min	1 min	5 min	2:59.83	00:50.21
Correlate inputs from collector	30 min	10 min	1 hour	33:31.59	10:29.23
Involvement has strong R^2 with happiness	30 min	10 min	1 hour	33:34.49	10:21.77
Salary has strong R^2 with happiness	30 min	10 min	1 hour	33:32.45	10:09.26
Opportunity has strong R^2 with happiness	30 min	10 min	1 hour	32:36.57	10:06.09

Time served has strong R^2 with happiness	30 min	10 min	1 hour	33:01.06	10:39.73
Education has strong R^2 with happiness	30 min	10 min	1 hour	34:15.28	10:22.48
Age has strong R^2 with happiness	30 min	10 min	1 hour	30:34.27	10:08.73
Gender has strong R^2 with happiness	30 min	10 min	1 hour	33:42.30	10:24.63
Religion has strong R^2 with happiness	30 min	10 min	1 hour	33:09.97	10:05.89
Marital status has strong R^2 with happiness	30 min	10 min	1 hour	33:40.90	10:18.81
Having kids has strong R^2 with happiness	30 min	10 min	1 hour	33:34.24	09:43.65
Kid's age has strong R^2 with happiness	30 min	10 min	1 hour	33:01.76	10:25.32
Package in understandable protected format for manager	10 min	5 min	30 min	14:47.15	05:20.21
Pass information from correlator	3 min	1 min	5 min	02:59.83	00:49.00
Interpret happiness data	3 hours	10 min	3 days	09:03:41.95	05:24:04.43
Continue current trajectory	0 sec	0 sec	0 sec	N/A	N/A
Attempt change to increase happiness	5 day	1 day	30 days	332:54:26.96	151:48:27.09
Pass information from manager	3 min	1 min	5 min	3:06.20	00:51.48
Employees deemed happy	0 sec	0 sec	0 sec	N/A	N/A
Model End	0 sec	0 sec	0 sec	N/A	N/A
Entire Model Iteration	-	-	-	338:15:32.23	06:40.5

The second alternative model focused on the manager's task of attempting to increase happiness. The task was broken up into several subordinate tasks to attempt to identify and delegate out the different task times in order to find hidden efficiencies that can be expounded upon. The independent variables that the manager might have some type of control over were

broken out and explained with more detail than the previous single task stating "Attempt change to increase happiness." Now the idea is to look at each effectible topic and decide how much change can be done, implement it, and iterate the model to look for an increase in the level of happiness. These tasks are detailed out in Table 6. Validation was completed using the same methods as above and the mean and confidence intervals are included. All tasks of determining things are given the same timing and implement change is given less time than the old all-encompassing task due to the breakout of each determination stage. This should make the maximum for the new grouping of tasks 27 days instead of the old 30 days. The results show that this version of the model is much faster than the other methods.

Table 6: Alternative model 2 simulation of 100 iterations showing the confidence interval

developed

Task	Duration Mode	Min		Mean	CI
Model Start	0 sec	N/A	N/A	N/A	N/A
Ask employee happiness question	10 sec	5 sec	1 min	25.19	00:11.29
Ask employee involvement question	10 sec	5 sec	1 min	25.18	00:12.29
Ask employee salary question	10 sec	5 sec	1 min	24.30	00:12.31
Ask employee opportunity question	10 sec	5 sec	1 min	24.08	00:13.24
Ask employee time served question	10 sec	5 sec	1 min	25.88	00:12.60
Pass information from collector	3 min	1 min	5 min	2:59.87	00:49.09
Correlate inputs from collector	30 min	10 min	1 hour	29:47.30	11:31.33
Involvement has strong R^2 with happiness	30 min	10 min	1 hour	32:57.15	10:51.84
Salary has strong R^2 with happiness	30 min	10 min	1 hour	33:57.84	10:13.86
Opportunity has strong R^2 with happiness	30 min	10 min	1 hour	33:32.78	10:12.81
Time served has strong R^2 with happiness	30 min	10 min	1 hour	32:25.97	10:17.98
Package in understandable protected format for manager	10 min	5 min	30 min	14:59.33	05:29.80
Pass information from correlator	3 min	1 min	5 min	03:01:60	00:50.19
Interpret happiness data	3 hours	10 min	3 days	09:33:25.18	05:29:47.96
Continue current trajectory	0 sec	0 sec	0 sec	N/A	N/A
Determine if salary should change	30 day	10 min	1 day	07:43:52.03	05:14:33.78
Determine if more promotions are needed	30 min	10 min	1 day	09:03:10.70	05:41:27.76

Determine if more awards are needed	30 min	10 min	1 day	08:22:30.45	06:12:54.97
Determine if human resources is hiring wrong type of person	30 min	10 min	1 day	08:13:13.60	05:39:18.95
Determine if involvement should increase	30 min	10 min	1 day	06:23:18.36	04:53:23.99
Determine if opportunities should increase	30 min	10 min	1 day	07:51:58.92	05:15:12.70
Determine raise percentage possible	30 min	10 min	1 day	08:03:23.42	06:03:45.62
Determine percentage of promotion possible	30 min	10 min	1 day	08:14:56.66	05:43:52.61
Determine percentage of awards possible	30 min	10 min	1 day	08:30:58.21	05:39:30.32
Implement Change	3 days	1 day	20 days	175:14:44.39	100:32:48.36
Pass information from manager	3 min	1 min	5 min	3:01.86	00:49.19
Employees deemed happy	0 sec	0 sec	0 sec	N/A	N/A
Model End	0 sec	0 sec	0 sec	N/A	N/A
Entire Model Iteration	-	-	-	267:51:04.71	13:15.1

The third alternative shows that reducing the maximum boundary by training the managers has reduced the overall time of the model to 298 hours or 12.5 days; however, the confidence interval has gone up, we are now only sure within an hour of 12.5 days. But an hour is not monumental in this case. If we were to take a 70% confidence interval on the entire model's time, we would have a value of 34 minutes and 56 seconds. Which is not much different than the 95% interval. In order to further reduce the process time or the confidence interval, the ranges of the other tasks would need to be reduced. This can be done by discovering better validation on why the bound should be smaller. Since historical data is not available, a study can be done to determine how quickly the correlators can determine r-squared values to provide a more accurate estimation

on that task time. Secondly, the larger tasks should be focused on to reduce the overall task time.

The biggest offender is the attempt change to increase happiness task. This task could be reduced

by developing predetermined solution packages for the reasoning found on lacking employee

happiness. Table 7 shows the new results.

Table 7: Alternative model 3 simulation of 100 iterations showing the confidence interval

developed

Task	Duration Mode	Min	Max	Mean	CI
Model Start	0 sec	N/A	N/A	N/A	N/A
Ask employee happiness question	10 sec	5 sec	1 min	25.40	00:00.1
Ask employee involvement question	10 sec	5 sec	1 min	25.10	00:00.1
Ask employee salary question	10 sec	5 sec	1 min	24.49	00:00.1
Ask employee opportunity question	10 sec	5 sec	1 min	23.39	00:00.1
Ask employee time served question	10 sec	5 sec	1 min	25.79	00:00.1
Pass information from collector	3 min	1 min	5 min	3:01.45	00:00.2
Correlate inputs from collector	30 min	10 min	1 hour	33:30.64	00:02.8
Involvement has strong R^2 with happiness	30 min	10 min	1 hour	33:34.33	00:02.8
Salary has strong R^2 with happiness	30 min	10 min	1 hour	33:26.22	00:02.8
Opportunity has strong R^2 with happiness	30 min	10 min	1 hour	33:43.11	00:02.6
Time served has strong R^2 with happiness	30 min	10 min	1 hour	32:56.09	00:02.8
Package in understandable protected format for manager	10 min	5 min	30 min	14:55.27	00:01.4
Pass information from correlator	3 min	1 min	5 min	2:59.62	00:00.2

Interpret happiness data	3 hours	10 min	3 days	09:02:09.14	01:22.8
Continue current trajectory	0 sec	0 sec	0 sec	N/A	N/A
Attempt change to increase happiness	5 day	1 day	30 days	276:37:17.74	54:02.7
Pass information from manager	3 min	1 min	5 min	3:03.82	00:00.3
Employees deemed happy	0 sec	0 sec	0 sec	N/A	N/A
Model End	0 sec	0 sec	0 sec	N/A	N/A
Entire Model Iteration	-	-	-	298:11:44.02	51:40.9

Collection Model Summary

The output analysis results found above should be integrated into the model in order to enhance it. This should reduce the largest task time and shorten the overall time of the model. The adaptations above will also allow for a more accurate model by better defining the considered variables and by further breaking out the manger's tasks and modeling more accurately where efficiencies can be gained. This model, while being a tool to answer the overall research question and not directly answering that question, is still very useful for showing the flow of data and providing a timing estimation tool for future studies in organizations of differing sizes. While the data used is randomized currently, once it is executed on one organization, the data can be used to enhance the model and provide better estimations for other organizations. The more it is used on more diverse organizations the better the pool of data will be which will only enhance the model's usability. This also serves to provide more detail for the variables, the response scales, and the possible additional variables that could be added to the model.

Survey Respondent Bias

It is possible that the respondents will skew the results of the survey questions. This could be done by employees who are extremely unhappy or who are being forced to participate despite not desiring to. The possible bias that could be introduced and data personnel should be vigilant of is shown in Table 8 adapted from OECD, 2013.

Table 8: Possible response biases and heuristics described.

Response bias or heuristic	Expected pattern of responses
Acquiescence or yea-saying	A tendency to agree with, or respond positively to, survey items regardless of their content.
Nay-saying	A tendency to disagree with, or respond negatively to, survey items regardless of their content.
Extreme responding	A tendency to use response categories towards the ends of a response scale/the most extreme response category.
Moderate responding	A tendency to use responses towards the middle of the response scale/the most moderate response category.
No-opinion responding	A tendency to select the response category that is most neutral in its meaning (e.g. "neither agree nor disagree").
Random responding	A tendency to respond randomly, rather than meaningfully.
Digit preferences	On numerical response formats, a tendency to prefer using some numbers more than others.
Primacy effects	A tendency to select one of the first response categories presented on a list.
Recency effects	A tendency to select one of the last response categories presented on a list.
Socially desirable responding	Conscious or subconscious tendency to select response options more likely to conform with social norms or present the respondent in a good light.
Demand characteristics	A reaction to subtle cues that might reflect the surveyor's beliefs about how they should respond and/or their own beliefs about the purpose of the survey (e.g. "leading questions", where the tone or phrasing of the question suggests to respondents that particular answers should be favoured).
Consistency motif or bias	A tendency for respondents to try and ensure consistency between responses (e.g. consistency between a question about attitudes towards smoking and a question about cigarette purchasing habits).
Priming effects	Where the survey context (e.g. question order; survey source) influences how questions are understood, or makes certain information more easily accessible to respondents.

Survey Approval

The Air Force Institute of Technology's Human Research Protection Program (HRPP) reviewed and approved of the survey questions and method. HRPP adheres to the ethical principles for the protection of human subjects summarized in the Belmont Report and complies with federal regulations, guidance, and state laws related to the protection of human subjects. The Air Force

Institute of Technology (AFIT) maintains an Air Force Issued Department of Defense Institutional Agreement for Institutional Review Board (IRB) review with the Air Force Research Laboratory (AFRL). Under this agreement, all research performed by AFIT will undergo the appropriate IRB review to ensure approval and compliance with DoD and other federal standards. In order to conduct this research, the Human Research Protection Program (HRPP) of the Air Force Institute of Technology (AFIT) reviewed and approved of the survey questions and method.

Chapter IV

This chapter's purpose is to summarize the results of the research. In total, there were 31 respondents. However, due to a glitch in the online client, only 25 respondents fully completed the survey. Six respondents somehow were able to skip the second and third pages of the survey while submitting it. It is theorized that the online client kicked these respondents out of the survey or reloaded the page and forced them to restart as a new respondent while still saving their original responses. Thus, the partial data will be included in the raw data as Appendix C but will be highlighted and excluded from the study statistics. The systematic approach to conducting the survey as described in the previous chapter would eliminate this source of error.

Respondent Bias

The data has already been found to have corrupted responses. It is important to verify as much as possible that other errors and bias are not present. No-opinion responding, primacy effects, and recency effects are easily found by examining the data. The same raw data are shown in Appendix C but the response variables for all but the demographic questions, the first 121, are conditionally formatted such that they will quickly visually show consistencies. These biases have to be carefully accessed because some respondents may feel strongly about all of their answers and may not be mindlessly answering. A response of one was colored as red, two as yellow, three as grey, four as light green, and five as dark green. This conditionally formatted data table is shown as Appendix D. Cells highlighted in yellow were those which the program allowed the respondents to skip. It is seen by looking down each respondent column that none of the responses exhibit no-opinion responding, primacy effects, or recency effects.

Vality and Reliability

        The survey responses are checked for internal question consistency to prove the respondents took the survey seriously and answered accurately. This is vital to ensure the ability to draw conclusions from the data. The survey responses for the following sets of statements showed correlation values of 0.8 or better. This would be the expected outcome if the employee accurately took the survey. The correlations of these questions does not imply a particular common answer, just that the value of the answer to the sets of questions were very similar for the respondents.

18.   The tasks I perform in a typical work day are very similar.

16.   The job requires performing the same activity(ies) repeatedly.

17.   There is high variety in my job.

27.   The work I do on this job is very meaningful for me.

1.   The work I do is very important to me.

2.   My job activities are personally meaningful to me.

31.   I feel I should personally take the credit or blame for the results of my work on this job.

30.   I feel a very high degree of personal responsibility for the work I do on this job.

32.   This is a high skill level position.

15.   The job requires relatively little skill and training time.

34.   My job requires creativity.

2.   My job activities are personally meaningful to me.

27.   The work I do on this job is very meaningful for me.

43.   I have the chance to help other people while at work.

42.   I have the chance to get to know other people while on the job.

52.   I am generally satisfied with the kind of work I do in this job.

51.   Generally speaking, I am very satisfied with this job.

69.   My personal values match my organization's values and culture.

68.   The things that I value in life are very similar to the things that my organization values.

89.   Most managers are sincere in their attempts to meet the work's point of view about the job.

88.   Most managers are honest and truthful about information to do with the job.

Demographic Summary

The demographics of all respondents are shown in summary plots included in Appendix F. To summarize them here, 56% of participants were between the ages of 25-34, 40% were between 35-44, and the remaining 4% between 18 and 24. The majority, 80% of the 25 respondents, were male. The division of employee type was nearly perfect split with 28% contractors, 28% civilians, and 44% military members. Three participants reported working at their current organization for more than 16 years while 40% have worked there for two years or less. The years of service

demographic question pointed out that the majority of the participants had spent six years or less at the organization. This demographic data mimics the number of promotions the participants have received. .Interestingly, the data on awards is different. Six people responded that they had received six or more awards and eleven responded that they had received none. Two participants reported being separated or divorced and the rest of them were split between being single and married. Seventeen people did not have children, but no one had more than four with only six people reporting that their children still lived at home. The hopefully most intriguing demographic turned out to have very little variation. The survey found that twelve people reported master's degrees, nine reported bachelor's degrees, and four reported some college or a certificate. This is disappointing because this slight variation in education level could fail to elude to happiness influence. The salary amounts were spread across the board however; one person annotated that they earned $500 or less every two weeks. Thus, this respondent's data was removed from the study.

Survey Results

The remaining results for each question are shown below in Table 9. The questions are numbered in the same order as described in Chapter Three in the first column. Across the top row, the respondent identification number is shown. Names were not collected in this study in accordance with standard scientific process. The respondent's answers are shown as numbers corresponding to the Likert scale where a score of one corresponds to strongly disagreeing and a score of five corresponds to strongly agreeing. Note that several questions have a negative connotation where strongly agreeing would not display the same positive feelings that the other questions do. The aforementioned conditional formatting is maintained for the data shown below.

The demographic questions begin with question 123; referencing Chapter III will explain the numerical equivalent values.

Table 9: Raw respondent data after removing incomplete data and data which was inaccurate.

Respondent / Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Q 1	4	2	5	4	4	4	1	4	2	2	2	4	5	4	2	4	5	5	3	3	5	1	2	3
Q 2	4	1	4	4	4	4	1	4	2	2	2	4	5	3	2	4	5	5	3	3	4	1	1	4
Q 3	4	1	5	4	3	2	2	4	4	3	3	5	5	3	2	3	4	4	3	3	4	1	2	4
Q 4	5	5	5	4	4	4	4	4	3	4	4	5	5	5	5	4	4	5	2	5	4	1	2	3
Q 5	4	5	4	3	5	4	4	4	3	4	3	4	4	5	5	4	4	5	5	5	4	3	1	4
Q 6	5	4	4	4	5	4	4	5	4	2	4	3	5	5	5	5	5	4	5	4	4	3	4	4
Q 7	2	2	4	4	2	2	4	1	3	2	2	3	1	2	2	3	2	4	2	2	3	4	4	3
Q 8	5	1	4	4	2	4	4	4	1	2	1	2	5	5	2	4	3	5	3	4	4	3	4	3
Q 9	4	1	4	4	4	4	4	4	3	3	3	5	4	4	4	4	4	4	2	4	4	1	1	4
Q 10	5	2	2	4	4	4	5	4	4	4	4	2	4	4	1	4	4	5	2	4	3	3	1	2
Q 11	4	2	4	4	5	2	2	2	4	3	5	4	4	3	4	4	5	4	2	5	2	3	4	3
Q 12	4	1	2	5	3	4	1	4	2	2	1	4	4	4	4	5	4	4	3	4	5	1	5	4
Q 13	4	4	3	4	4	4	1	4	5	3	1	5	4	2	1	5	3	4	1	4	3	1	1	2
Q 14	2	1	4	1	1	1	5	2	5	1	5	2	2	3	4	1	2	3	4	5	3	5	5	3
Q 15	2	1	4	1	2	1	5	2	4	1	3	2	2	1	4	1	4	3	4	5	1	5	1	4
Q 16	3	5	4	5	1	2	5	2	5	2	4	4	4	4	5	4	2	4	5	5	4	5	4	3
Q 17	4	1	2	3	5	4	1	4	1	4	4	1	3	4	1	3	4	4	1	2	4	1	1	5
Q 18	4	5	4	4	1	2	5	2	5	3	4	5	4	4	5	4	2	4	5	5	4	5	5	3
Q 19	4	1	2	4	4	4	2	4	1	3	5	2	4	4	5	4	4	4	2	2	4	1	4	2
Q 20	2	4	4	4	4	4	2	4	2	4	5	2	4	5	4	3	5	5	5	5	3	4	5	3
Q 21	3	5	4	4	4	4	4	4	3	4	4	2	4	5	5	5	5	5	4	5	5	3	5	4
Q 22	3	1	4	3	2	4	2	2	1	3	3	2	4	5	4	3	4	5	5	5	4	4	5	4
Q 23	4	1	2	5	3	4	4	5	1	2	3	2	4	4	5	5	3	4	2	1	5	2	1	4
Q 24	4	1	5	5	4	4	4	5	4	2	4	4	5	4	2	4	3	4	2	1	4	3	4	3
Q 25	5	3	1	4	4	2	4	5	4	2	3	4	5	5	2	5	4	4	4	1	5	3	4	3
Q 26	2	4	3	3	2	4	5	2	4	4	4	3	1	4	4	2	2	3	2	3	1	3	2	4
Q 27	4	1	3	3	3	4	1	4	2	1	2	3	4	4	2	4	5	4	3	3	5	1	2	4
Q 28	4	4	4	2	3	4	2	4	4	3	3	5	4	2	1	4	4	2	3	2	4	2	5	3
Q 29	2	2	3	2	4	2	4	1	2	4	2	1	1	1	2	3	2	2	1	2	1	2	1	4
Q 30	4	5	4	4	4	4	2	4	3	2	3	4	5	5	2	4	4	4	4	2	5	3	4	3
Q 31	3	5	4	4	5	4	2	4	2	3	3	4	5	5	2	3	4	4	4	1	5	4	4	3
Q 32	4	4	2	4	3	5	1	4	1	4	1	2	4	4	1	5	3	4	1	1	4	1	4	2
Q 33	5	4	4	4	5	5	2	4	4	4	3	2	4	4	3	5	5	5	4	1	4	3	4	3
Q 34	4	1	2	4	4	5	2	4	2	2	2	4	4	4	1	4	4	4	2	1	5	1	1	4
Q 35	3	1	1	2	3	2	1	4	1	1	1	3	4	1	1	3	2	2	2	1	2	1	1	2
Q 36	2	1	2	1	2	2	1	4	1	1	1	2	2	1	1	1	2	1	1	1	4	1	2	3
Q 37	4	1	2	3	3	2	1	4	3	2	2	4	2	4	4	4	4	3	2	1	5	1	5	5
Q 38	5	1	4	3	3	4	4	4	5	5	5	5	4	5	4	5	5	5	2	1	5	3	2	4
Q 39	5	4	4	2	3	4	5	5	5	5	4	5	3	5	3	5	5	5	1	1	5	3	5	4
Q 40	5	4	3	3	3	4	4	5	3	4	5	4	4	5	4	5	5	5	1	3	5	3	4	4
Q 41	4	5	4	3	4	5	4	5	5	4	4	4	5	5	4	5	4	5	3	3	5	4	5	4

Q 42	5	1	4	4	4	5	5	5	5	4	4	5	4	5	5	5	4	5	4	4	5	4	1	4
Q 43	5	2	4	4	4	5	4	5	4	4	4	5	4	4	4	5	3	5	4	4	4	3	1	3
Q 44	4	5	4	4	4	5	2	4	4	2	5	4	5	4	2	4	4	5	5	4	5	3	5	4
Q 45	4	5	4	4	5	5	3	4	2	4	5	3	5	4	1	3	3	5	2	2	5	3	5	4
Q 46	4	4	4	4	4	5	2	4	3	4	5	2	4	4	2	3	3	5	2	4	5	1	5	4
Q 47	3	5	2	3	3	2	4	2	5	5	3	3	2	4	5	3	3	2	4	4	2	3	4	4
Q 48	4	1	4	5	4	3	2	4	3	1	4	4	4	2	2	4	4	4	2	2	3	3	2	3
Q 49	4	1	4	3	3	3	2	2	2	1	3	3	4	2	1	3	3	3	2	1	4	3	1	3
Q 50	5	1	5	3	4	4	3	4	2	1	3	4	4	2	1	4	4	4	1	1	5	3	4	3
Q 51	4	3	4	3	4	4	2	4	2	2	2	3	4	4	2	5	4	4	2	4	5	1	4	3
Q 52	4	1	4	4	4	4	2	4	3	2	1	3	4	4	2	5	5	4	2	3	4	1	4	2
Q 53	1	4	2	4	3	2	5	1	5	4	5	2	2	2	1	1	1	1	3	2	2	4	2	3
Q 54	1	5	4	5	3	2	4	4	2	5	3	1	2	1	2	2	2	1	5	4	1	2	1	3
Q 55	2	2	2	4	3	2	4	1	2	4	3	3	3	1	4	2	2	3	4	3	1	3	4	3
Q 56	2	5	4	2	4	4	1	2	2	1	1	4	3	5	2	5	4	1	2	2	3	1	5	3
Q 57	3	4	4	3	5	2	2	4	4	4	4	4	4	2	2	4	4	4	4	5	3	3	4	4
Q 58	4	4	1	4	5	2	4	5	4	4	4	3	4	4	4	5	3	4	2	2	4	3	4	1
Q 59	5	4	4	4	4	2	4	4	4	3	4	4	3	5	3	4	3	4	2	3	4	3	4	3
Q 60	4	1	2	3	4	4	1	2	1	2	1	2	4	4	1	5	4	4	1	2	4	1	1	3
Q 61	4	1	3	4	5	5	4	4	1	4	1	3	4	5	4	5	3	5	4	1	5	1	5	3
Q 62	4	1	3	2	4	2	1	4	1	1	1	2	3	4	1	4	5	4	2	1	5	1	2	3
Q 63	4	4	4	5	5	4	5	4	4	2	4	5	4	4	4	4	4	5	4	5	5	3	5	3
Q 64	4	1	4	3	4	4	1	4	1	2	2	3	4	2	1	4	4	5	2	1	4	1	2	3
Q 65	4	2	3	2	4	4	2	2	2	2	2	4	4	4	1	5	3	4	2	1	3	1	4	3
Q 66	4	4	3	2	5	4	2	2	3	2	3	4	4	4	1	5	3	4	2	2	5	3	4	3
Q 67	4	1	3	2	5	4	1	2	2	2	3	4	5	4	1	4	3	4	2	3	5	1	2	3
Q 68	5	4	4	2	3	4	1	4	2	2	1	3	4	4	2	5	4	4	2	2	4	3	4	3
Q 69	5	4	3	3	5	4	2	4	3	2	2	3	4	4	2	4	4	4	2	2	4	3	4	3
Q 70	4	1	4	3	5	4	1	4	1	2	1	4	4	2	1	4	4	4	2	2	4	1	4	3
Q 71	4	1	3	4	5	4	1	4	1	3	2	4	4	4	1	4	4	4	2	2	4	1	4	3
Q 72	4	1	4	4	4	5	1	4	1	2	1	4	4	5	1	5	4	4	1	2	4	1	5	3
Q 73	4	1	4	4	1	5	1	4	1	2	1	4	4	2	1	4	4	4	2	2	4	1	5	3
Q 74	4	2	4	4	5	5	5	4	4	3	4	4	5	5	4	4	5	4	3	2	4	3	5	3
Q 75	4	4	3	4	3	2	4	4	3	2	4	4	4	5	5	3	3	4	2	2	3	3	4	3
Q 76	2	2	3	2	1	1	2	2	2	3	1	2	1	1	1	3	2	2	3	4	2	2	1	3
Q 77	4	5	4	4	4	4	1	2	3	3	4	2	3	1	2	3	3	2	2	2	4	2	5	3
Q 78	5	5	4	3	4	5	2	4	4	5	4	4	4	4	4	4	2	4	5	5	4	3	5	3
Q 79	2	3	4	4	3	2	5	4	4	4	1	3	4	5	5	4	3	4	4	4	2	3	2	3
Q 80	4	5	4	4	4	4	4	4	5	4	4	4	4	5	4	3	4	4	3	2	4	3	5	3
Q 81	5	5	4	4	4	5	4	4	3	4	5	4	2	4	5	4	5	4	3	4	4	4	5	3
Q 82	2	2	4	3	3	2	4	3	3	3	2	2	2	5	5	2	3	4	2	4	2	3	2	3
Q 83	3	1	4	1	2	4	2	3	2	4	3	4	4	2	2	3	2	4	2	3	3	4	2	3
Q 84	4	5	4	4	4	4	4	4	5	2	4	4	2	4	4	3	2	4	3	2	3	4	5	3
Q 85	2	1	4	2	4	3	1	1	2	4	3	1	2	2	2	1	2	2	2	1	1	1	1	3
Q 86	1	1	4	2	2	2	1	1	1	2	3	1	1	1	1	1	2	1	2	2	1	1	1	5
Q 87	4	5	4	3	4	2	5	5	4	2	3	4	4	4	2	4	4	5	3	3	4	3	4	3
Q 88	4	5	3	4	4	4	2	4	2	3	3	3	4	2	1	3	3	5	4	3	4	3	2	3
Q 89	4	4	4	4	4	4	1	4	2	3	3	3	4	2	1	3	3	5	3	2	4	3	2	3
Q 90	4	4	5	3	4	4	2	4	3	2	3	3	4	1	2	4	4	4	4	2	4	3	4	3
Q 91	4	5	4	2	3	4	1	4	2	2	2	2	4	2	1	3	4	5	3	3	4	2	4	3
Q 92	2	4	4	3	2	3	5	4	3	4	4	2	2	5	5	2	2	1	2	3	1	3	1	3
Q 93	4	2	4	2	4	4	1	4	3	2	3	3	4	2	2	4	3	4	4	2	4	2	1	3
Q 94	2	4	4	2	4	3	5	2	4	4	4	2	2	5	5	3	3	2	2	4	2	3	4	3

Q 95	4	1	5	1	2	2	2	4	2	3	1	2	4	1	2	3	2	4	3	2	4	3	1	3
Q 96	4	2	4	2	3	4	2	4	3	2	3	4	4	1	2	4	4	5	3	4	5	3	1	3
Q 97	4	2	4	2	3	2	2	4	4	2	3	3	4	1	1	3	3	4	3	1	4	2	2	3
Q 98	4	5	4	2	4	4	4	4	4	4	5	4	4	4	5	5	4	5	3	1	4	3	5	3
Q 99	4	5	5	2	4	4	3	4	3	3	4	3	4	4	2	5	5	4	5	1	5	2	5	3
Q 100	2	2	4	4	1	2	4	2	2	2	3	2	2	4	3	3	2	3	3	3	1	4	2	3
Q 101	4	4	4	2	4	4	1	4	2	4	4	4	4	4	4	5	3	4	4	1	5	2	2	3
Q 102	2	2	4	4	2	2	4	2	3	3	3	3	2	4	2	3	2	2	3	4	2	3	4	3
Q 103	4	2	5	2	4	2	3	4	2	3	5	4	4	4	4	4	3	5	3	1	4	3	5	3
Q 104	4	4	4	2	2	4	2	4	3	4	2	2	4	3	2	5	4	4	3	2	4	2	5	3
Q 105	4	5	5	2	4	4	1	4	2	4	4	5	4	4	4	5	4	5	4	3	5	3	5	3
Q 106	4	5	4	2	4	4	2	4	4	4	4	3	4	4	3	4	5	5	4	3	5	3	5	3
Q 107	4	5	3	2	4	4	2	4	2	3	4	4	4	3	4	5	4	5	3	3	4	3	5	3
Q 108	5	1	4	2	1	2	5	2	4	3	1	5	3	4	3	3	1	1	5	1	5	5	1	3
Q 109	5	5	3	2	2	2	5	1	4	2	4	4	2	2	2	2	3	1	1	1	5	5	1	3
Q 110	3	2	5	2	1	2	4	1	1	1	2	3	2	2	1	1	1	1	1	1	3	1	1	3
Q 111	1	2	3	4	1	2	5	1	2	3	3	2	2	1	2	2	3	1	1	1	1	1	2	3
Q 112	3	5	4	3	1	2	5	1	2	2	4	3	2	1	4	2	2	1	2	3	1	1	2	3
Q 113	3	2	4	3	1	2	5	1	2	2	4	3	3	1	4	2	2	1	5	5	1	1	2	3
Q 114	1	5	3	3	1	2	5	1	4	4	4	2	2	1	2	1	1	1	3	1	1	4	4	3
Q 115	1	2	4	2	1	2	5	1	2	1	3	1	2	1	2	1	1	1	2	1	1	3	2	3
Q 116	1	2	5	4	1	2	5	1	2	1	1	2	2	1	4	1	1	1	4	1	1	3	1	3
Q 117	3	1	4	2	2	2	1	2	1	2	1	2	2	2	2	2	2	2	2	1	2	2	4	3
Q 118	2	1	4	1	3	2	1	4	1	1	1	3	4	1	2	1	2	1	2	1	2	1	2	3
Q 119	4	5	3	5	4	4	5	2	5	5	5	3	3	5	4	4	4	5	5	5	4	5	1	3
Q 120	3	5	5	1	3	3	1	4	2	1	1	3	4	4	4	3	2	4	5	2	2	1	1	3
Q 121	4	5	4	4	2	4	4	4	3	2	3	4	2	4	2	3	2	4	2	1	2	3	5	3
Q 122	2	3	2	2	2	1	2	2	3	3	2	2	2	2	2	3	2	2	3	2	3	3	3	3
Q 123	2	2	2	2	2	1	2	1	2	2	2	1	2	1	1	2	2	2	2	2	2	2	2	2
Q 124	3	1	1	3	3	2	3	3	3	3	2	2	1	2	2	2	3	2	1	1	3	3	1	3
Q 125	2	9	2	3	1	1	3	3	2	9	1	9	1	2	1	5	1	1	5	1	2	1	5	1
Q 126	3	1	2	2	2	1	4	3	1	4	3	3	2	2	1	4	2	1	6	1	2	1	3	1
Q 127	4	1	1	3	1	3	2	7	1	7	7	7	1	7	1	7	2	3	1	3	3	1	1	1
Q 128	2	3	2	1	2	1	1	1	2	2	2	1	1	1	2	2	2	1	2	1	2	1	1	3
Q 129	2	2	1	2	1	2	2	2	1	1	2	2	2	2	2	2	2	2	1	2	1	2	2	1
Q 130			1		4				1	4									1		2			3
Q 131			1		1				1	1									1					2
Q 132	5	3	5	6	5	5	6	5	6	6	6	5	6	6	6	6	6	6	5	3	3	5	3	6
Q 133	5	7	6	6	4	3	8	4	8	11	4	4	6	4	3	7	6	7	11	5	6	10	7	4
Q 134	#	#	#	0	#	#	0	0	#	#	0	70	5	0	0	5	30	60	20	7	0	1	10	32

Chapter V

The purpose of this final chapter in the research is to draw conclusions from the raw data. This data can be expanded in multiple ways to examine first and second layer correlations. This chapter will make statistical conclusions and suggest possible causation and management action. Finally, the problem being investigated by this research is the impact of education, other characteristics, and demographics on the satisfaction level of an employee. The survey data will be explored for possible answers to the problem being investigated as well as answering the overarching research question of which employee characteristic is the most influential in making employees, both government and contractor, happy in a work environment.

Correlations

Given the vast number of survey questions and demographic questions, there are many possible correlations that can be explored. This research is examining the data specifically for connections to the education level demographic. There was only one demographic question related to education level and the higher numerical response denoted more education. These values were found to have only weak correlations with almost all of the questions. There were only two questions out of the 134 which show moderate correlations with education level. These were numbers 38 (I feel comfortable with the amount of job security I have) and 42 (I have the chance to get to know other people while on the job) with correlations of 0.631 and 0.549, respectively. The question pointing towards job security is interesting, but both could be unrelated to education level. However, the educational level responses were not very diverse. The lack of disparity in the data would affect the results of the correlations with other questions.

Due to the failure to produce sufficient data in education level, the other questions in the survey were explored for a strong correlation (0.8 or greater). This process showed the validity of the survey responses by showing the strong correlations between similar question topics. The question of "the tasks I perform in a typical work day are very similar" correlated strongly with "the job requires performing the same activity(ies) repeatedly." Additionally, the question of "the work I do on this job is very meaningful for me" correlated strongly with "the work I do is very important to me" and "my job activities are personally meaningful to me." This shows that the respondents took the survey seriously as opposed to these questions not correlating, or correlating with unrelated questions. Similarly, the question of "I feel I should personally take the credit or blame for the results of my work on this job" correlated strongly with "I feel a very high degree of personal responsibility for the work I do on this job." The question of "I have the chance to help other people while at work" correlated strongly with "I have the chance to get to know other people while on the job.)

More interesting than validity correlations are those that suggest human behavioral preferences and could point to reasons for job enjoyment. The question of "my job requires creativity" correlated strongly (0.8 or greater) with "my job activities are personally meaningful to me" and "the work I do on this job is very meaningful for me." This correlation could suggest that a more creative job will create more meaning for the employee and thus more investment. Solidifying the creativity point is shown in the following three questions all having strong correlations: I feel that my work utilizes my full abilities, the work I do on this job is very meaningful for me, and my job requires creativity. However, for this group of respondents, the results are not inspiring. The average response for the question of work utilizing the employee's full abilities had an average response of 2.5 equating to a verbal of neutral to disagree. Only one

respondent scored this question as strongly agree. This civilian, male, respondent reported having a master's degree, being married with no children, working at their organization for 8-10 years, and not being religious.

Questions 51 (I am generally satisfied with the kind of work I do in this job) and 52 (generally speaking, I am very satisfied with this job) correlated strongly as well. The responses for these questions averaged 3.2, which corresponds to a verbal response of neither agree nor disagree. Analyzing this point brought the focus on each respondent's overall average response for the non-demographic questions. None of the 24 respondents' average scores were above four. This shows that these respondents responded negatively to the majority of the questions. Of the 24 respondents, eight of them scored averages between 2.5 and 2.9 corresponding to verbal responses of strongly disagree to disagree. Of these eight respondents, four have master's degrees, two have bachelors, and two have some level of college or certification. The combination of this information and the above-mentioned information of negative responses to the variety of job work and availability of creative options shows that perhaps for this group of respondents, education level actually increases job dissatisfaction and unhappiness as opposed to increasing it. In order to better validate this discovery, a larger sample size is needed. All eight of these employees disagreed or strongly disagreed with the questions of: I would be very happy to spend the rest of my career with this organization, the work I do on this job is very meaningful for me, and I feel that my work utilizes my full abilities. All but one of these eight were male, and they were a variety of employee type. The majority of respondents in the survey were male; however, there was a substantial amount of diversity in the types of employees in the survey. This suggests that all employee types (civilian, contractor, and military) suffer from similar issues. Only one of the

eight received any awards, and five had not been promoted. The eight reported a variety of years of experience, salaries, and religiousness.

While the above eight respondents suggest strong negative employee feelings, 12 different respondents agreed or strongly agreed with the statements of "generally speaking, I am very satisfied with this job" and "I am generally satisfied with the kind of work I do in this job." Interestingly though, the average response to the statement of "I want to leave this organization very much" was 2.4, corresponding to strongly disagree or disagree. The 12 satisfied employees did not have any demographics in common with each other. However, 10 of the 12 satisfied respondents agreed or strongly agreed with the statement that their job requires creativity and reported that their jobs had higher variability. The statements "my personal abilities and education provide a good match with the demands that my job places on me" and "my abilities and training are a good fit with the requirements of my job" were answered by the 12 satisfied and 8 dissatisfied employees consistent with their previous answers. The happy employees agreed or strongly agreed with the statements, and the unhappy employees disagreed or strongly disagreed with the statements. This suggests that the difference between happy and unhappy employees is the match of what they perceive they are capable of and what their job entails.

Conclusions

As mentioned previously in the study, a broader swath of data would be more beneficial for drawing stronger conclusions. The information and suggestions presented above cannot be applied to the entire DoD as a stereotype. Additionally, future studies with this survey should be conducted using the above proposed method and not done by an online client. However, the data gathered from this study shows important factors that should be explored further. The study points

to job variety and creativity being more significant factors influencing employee happiness than education level. If surveyors desire to shorten the survey used in this study, it can be reduced to focus on the job creativity and variety questions; however, this should be done with caution because all respondents will be different and new conclusions could be drawn from different samples. This study did not prove the hypothesis of higher education equating to happier workers; however, it showed that happiness is dictated by job-employee match.

Managerial Suggestions

Managers of any size unit can utilize this study or parts of it in order to draw conclusions similar to those above for their employees. The most critical aspect of the managerial loop is the action to improve employee satisfaction. For the 24 employees of this study, it is clear that several employees are not happy with their situation due to the matching of their abilities with their jobs. The hypothetical manager of these employees should conduct an in-depth review of the employee's qualifications and job duties. It is critical that this be done with up-to-date information and not what is on file. Employees will need to be interviewed to discover what their job actually entails and what qualifications they have. During this type of interview, it would be beneficial for the manager to simply ask the employee if they like their job and feel like they are being properly utilized. Managers have the responsibility to care for their people while accomplishing their mission and ensuring the repeatability of this process.

Appendix A: Variable Categorized Questions and Sources

Empowerment

Sprietzer, G. M. (1995). Psychological empowerment in the workplace: Construct definition, measurement, and validation. *Academy of Management Journal, 17,* 1442-1465.

Meaning: (the value a task holds in relation to the individual's value system)
1. The work I do is very important to me
2. My job activities are personally meaningful to me
3. The work I do is meaningful to me

Intrinsic Motivation

Hackman, J. R., & Lawler, E. E. (1971). Employee reactions to job characteristics. *Journal of Applied Psychology [Monograph], 55,* 259-286.

1. I feel a great sense of personal satisfaction when I do my job well.
2. Doing my job well increases my feelings of self-esteem.
3. I feel bad when I do my job poorly.

Hackman, J. R., & Oldham, G. R. (1980). *Work redesign*. Addison-Wesley: Reading, MA.

1. My opinion of myself goes up when I do this job well.
2. I feel a great sense of personal satisfaction when I do this job well.
3. I feel bad and unhappy when I discover that I have performed poorly on this job.
4. My own feelings generally are not affected much one way or the other by how well I do on this job. (R)
5. Most people on this job feel a great sense of personal satisfaction when they do the job well.
6. Most people on this job feel bad or unhappy when they find that they have performed the work poorly.

Warr, P., Cook, J., & Wall, T. (1979). Scales for the measurement of some work attitudes and aspects of psychological well-being. *Journal of Occupational Psychology, 52,* 129-148.

1. I feel a sense of personal satisfaction when I do this job well.
2. My opinion of myself goes down when I do this job badly.
3. I take pride in doing my job as well as I can.
4. I feel unhappy when my work is not up to my usual standard.
5. I like to look back on the day's work with a sense of a job well done.
6. I try to think of ways of doing my job effectively.

Job Design

Edwards, J. R., Scully, J. A., & Brtek, M. D. (1999). The measurement of work: Hierarchical representation of the multimethod job design questionnaire. *Personnel Psychology, 52,* 305-334.

Rewards:
1. There are opportunities for advancement to higher level jobs.
2. The job provides for feelings of achievement and task accomplishment.
3. The job allows participation in work-related decision making.
4. The pay on this job is adequate compared with the job requirements and with the pay in similar jobs.

Specialization:
1. The job is highly specialized in terms of purpose, tasks, or activities.
2. The tools, procedures, materials, and so forth, used on this job are highly specialized in terms of purpose.

Task Simplicity:
1. The tasks are simple and uncomplicated.
2. The job requires relatively little skill and training time.
3. The job requires performing the same activity(ies) repeatedly.

Job Characteristics Inventory (JCI)

Sims, H. P., Szilagyi, A. D., & Keller, R. T. (1976). The measurement of job characteristics. *Academy of Management Journal, 19,* 195-212.

Variety:
1. How much variety is there in your job?
2. How repetitious are your duties?
3. How similar are the tasks you perform in a typical work day?
4. The opportunity to do a number of different things.
5. The amount of variety in my job.

Autonomy:
1. How much are you left on your own to do your own work?
2. To what extent are you able to act independently of your supervisors in performing your job function?
3. To what extent are you able to do your job independently of others?
4. The opportunity for independent thought and action.
5. The freedom to do pretty much what I want on my job.
6. The control I have over the pace of my work.

Job Diagnostic Survey (JDS)

Idaszak, J. R., & Drasgow, F. (1987). A revision of the job diagnostic survey: Elimination of a measurement artifact. *Journal of Applied Psychology, 72*, 69-74.

Task Significance (the degree to which the job has a substantial impact on the lives of other people, whether those people are in the immediate organization or in the world at large)

1. In general, how *significant* or *important* is your job? That is, are the results of your work likely to significantly affect the lives or well-being of other people?
2. This job is one where a lot of other people can be affected by how well the work gets done.
3. The job itself is very significant and important in the broader scheme of things.

Meaningfulness ("something that counts in one's own system of values" – not considered trivial)
1. Most of the things I have to do on this job seem useless or trivial (R)
2. The work I do on this job is very meaningful for me
3. Most people on this job feel this work is useless or trivial (R)
4. Most people on this job find this work meaningful

Responsibility (personal accountability for work outcomes)
1. It's hard, on this job, for me to care very much about whether or not the work gets done right (r)
2. I feel a very high degree of personal responsibility for the work I do on this job
3. I feel I should personally take the credit or blame for the results of my work on this job
4. Whether or not this job gets done right is clearly my responsibility
5. Most people on this job feel a great deal of personal responsibility for the work they do
6. Most people on this job find the work very meaningful

Karasek, R.A. (1979). Job demands, job design latitude, and mental strain: Implications for job design. *Administrative Science Quarterly, 24,* 285-308.

Skill discretion items:

1. To what extent is high skill level required?
2. To what extent are you required to learn new things?
3. To what extent is your work non-repetitious?
4. To what extent does your job require creativity?

Multimethod Job Design Questionnaire (MJDQ)

Campion, M. A. & McClelland, C. L. (1991) Interdisciplinary examination of the costs and benefits of enlarged jobs: A job design quasi-experiment. *Journal of Applied Psychology, 76,* 186-198.

1. In my job, I can make my own decisions about how to schedule my work.
2. I can make decisions about what methods I use to complete my work.
3. My managers and coworkers provide me with feedback about the effectiveness (e.g., quality and quantity) of my job performance.
4. The work itself provides me with feedback about the effectiveness (e.g., quality and quantity) of my job performance.
5. On my job, there is the opportunity for positive social interaction such as team work or coworker assistance.
6. The tasks I am expected to do on my job are clear and specific.

7. The goals (e.g., levels of performance) I am expected to reach on my job are clear and specific.
8. My job involves a variety of duties, tasks, and activities.
9. My job requires a high level of knowledge and skills.
10. My job requires a variety of knowledge and skills.
11. I believe my job is significant and important compared with other jobs in the ROC.
12. My job gives me the opportunity to increase my knowledge and develop my skills.
13. In my current job, there are opportunities for advancement to higher level jobs.
14. Doing my job gives me a feeling of achievement and accomplishment.
15. I am given the opportunity to participate in decisions that affect my job.
16. I receive enough of the information I need to perform my job.
17. The pay I receive for doing this job is adequate compared with the job requirements and with the pay in similar jobs.
18. On this job, I receive acknowledgement and recognition from my coworkers.
19. On this job, I receive acknowledgement and recognition from management.
20. I will continue to have a job at Allstate as long as I continue to do a good job.
21. My job is very mentally demanding.

Job Involvement

Hackman, J. R., & Lawler, E. E. (1971). Employee reactions to job characteristics. *Journal of Applied Psychology [Monograph], 55,* 259-286. Taken from Lodahl, T. M., & Kejner, M. (1965). The definition and measurement of job involvement. *Journal of Applied Psychology, 49*, 24-33.

1. The most important things that happen to me involve my work.
2. I live, eat, and breathe my job.
3. I am very much personally involved in my work.

Job Satisfaction

Hackman, J. R., & Oldham, G. R. (1980). *Work redesign*. Reading, MA: Addison-Wesley.

How satisfied are you with this aspect of your job?

1 = Extremely dissatisfied
2 = Dissatisfied
3 = Slightly dissatisfied
4 = Neutral
5 = Slightly satisfied
6 = Satisfied
7 = Extremely satisfied

Satisfaction with job security
1. The amount of job security I have.
2. How secure things look for me in the future in this organization.

Satisfaction with compensation (pay)
1. The amount of pay and fringe benefits I receive.
2. The degree to which I am fairly paid for what I contribute to this organization.

Satisfaction with co-workers
1. The people I talk to and work with on my job.
2. The chance to get to know other people while on the job.
3. The chance to help other people while at work.

Satisfaction with supervision
1. The degree of respect and fair treatment I receive from my boss.
2. The amount of support and guidance I receive from my supervisor.
3. The overall quality of supervision I receive in my work.

Spector, P. E. (1985). Measurement of human service staff satisfaction: Development of the Job Satisfaction Survey. *American Journal of Community Psychology, 13,* 693-713.

Promotion satisfaction items:
1. There is really too little chance for promotion on my job (R)
2. Those who do well on the job stand a fair chance of being promoted
3. People get ahead as fast here as they do in other places
4. I am satisfied with my chances for promotion

Hackman, J. R., & Oldham, G. R. (1980). *Work redesign*. Addison-Wesley: Reading, MA.

Own feelings about job:
Generally speaking, I am very satisfied with this job.
I am generally satisfied with the kind of work I do in this job.
I frequently think of quitting this job (r).

Organizational Commitment

Meyer, J.P., & Allen, N.J. (1997). *Commitment in the workplace*. Thousand Oaks, CA: Sage.

Original affective commitment items:

1. I would be very happy to spend the rest of my career with this organization (RS)
2. I enjoy discussing my organization with people outside of it
3. I really feel as if this organization's problems are my own (RS)
4. I think that I could easily become as attached to another organization as I am to this one
5. I do not feel like "part of the family" at my organization (R) (RS)
6. I do not feel emotionally attached to this organization (R) (RS)
7. This organization has a great deal of personal meaning for me (RS)
8. I do not feel a strong sense of belonging to my organization (R) (RS)

Revised normative commitment items:

1. I do not feel any obligation to remain with my current employer (R)
2. Even if it were to my advantage, I do not feel it would be right to leave my organization now
3. I would feel guilty if I left my organization now
4. This organization deserves my loyalty
5. I would not leave my organization right now because I have a sense of obligation to the people in it
6. I owe a great deal to this organization

Cook, J., & Wall, T.D. (1980). New work attitude measures of trust, organizational commitment and personal need for non-fulfillment. *Journal of Organizational and Occupational Psychology*, 53, 39-52.

Organizational Commitment

1. I am quite proud to tell people who it is that I work for
2. I sometimes feel like leaving this employment for good (R)
3. I'm not willing to put myself out just to help the organization (R)
4. Even if the firm were not doing too well financially, I would be reluctant to change to another employer
5. I feel myself to be part of the organization
6. In my work I like to feel I am making some effort, not just for myself, but for the organization as well
7. The offer of a bit more money with another employer would not seriously make me think of changing my job
8. I would not recommend a close friend to join our staff (R)
9. To know that my own work had made a contribution to the good of the organization would please me

Marsden, P.V., Kalleberg, A.L., & Cook, C.R., 1993. Gender differences in organizational commitment: Influences of work positions and family roles. *Work and Occupations*, 20(3), 368-390.

I am willing to work harder than I have to in order to help this organization succeed
1. I feel very little loyalty to this organization (R)
2. I would take almost any job to keep working for this organization
3. I find that my values and this organization's are very similar
4. I am proud to be working for this organization
5. I would turn down another job for more pay in order to stay with this organization

Pay Satisfaction

Heneman, H.G., & Schwab, D.P. (1985). Pay Satisfaction: It's multidimensional nature and measurement. *International Journal of Psychology*, 20, 129-141.

1. My take-home pay
2. My benefit package
3. My most recent raise
4. Influence my supervisor has on my pay
5. My current salary
6. Amount the company pays toward my benefits
7. The raises I have typically received in the past
8. The company's pay structure
9. Information the company gives about pay issues of concern to me
10. My overall level of pay
11. The value of my benefits
12. Pay of other jobs in the company
13. Consistency of the company's pay policy
14. Size of my current salary
15. The number of benefits I receive
16. How my raises are determined
17. Differences in pay among jobs in the company
18. How the company administers pay

Perceived Ability-Job Fit

Xie, J.L., 1996. Karasek's model in the People's Republic of China: Effects of job demands, control, and individual differences. *Academy of Management Journal*, 39(6), 1594-1619.

1. I feel that my work utilizes my full abilities
2. I feel competent and fully able to handle my job
3. My job gives me a chance to do the things I feel I do best
4. I feel that my job and I are well matched
5. I feel I have adequate preparation for the job I now hold

Perceived Organizational Support

Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology, 71,* 500-507.

9-item version
1. The organization values my contribution to its well-being.
2. The organization strongly considers my goals and values.
3. Help is available from the organization when I have a problem.
4. The organization really cares about my well-being.
5. The organization is willing to help me when I need a special favor.
6. The organization cares about my general satisfaction at work.
7. The organization cares about my opinions.
8. The organization takes pride in my accomplishments at work.
9. The organization tries to make my job as interesting as possible.

Person-Organization Fit

Bretz, R.D., Jr., & Judge, T.A. (1994). Person-organization fit and the theory of work adjustment: Implications for satisfaction, tenure, and career success. *Journal of Vocational Behavior*, 44, 32-54.

Job and organization perception items:

1. This organization pays on the basis of individual performance
2. This organization has a profit or gain-sharing plan
3. This organization makes promotions based mostly on individual performance
4. This organization encourages competition between employees
5. This organization encourages and rewards loyalty
6. Teamwork and cooperation are valued and rewarded here
7. When the organization has a good year it pays bonuses to the employees
8. People generally have to work in groups to get their work done
9. This organization offers long-term employment security
10. This organization has a "fast-track" program
11. This organization has/follows a promote-from-within policy
12. The typical employee here works very hard to fulfill work expectations
13. There is an emphasis on helping others
14. Fairness is an important consideration in organizational activities
15. When mistakes are made it is best to be honest and "take your lumps"

Cable, D. M., & DeRue, D. S. (2002). The convergent and discriminant validity of subjective fit perceptions. *Journal of Applied Psychology, 87,* 875-884.

Person-Organization Fit
1. The things that I value in life are very similar to the things that my organization values.
2. My personal values match my organization's values and culture.
3. My organization's values and culture provide a good fit with the things that I value in life.

Needs-Supplies Fit
4. There is a good fit between what my job offers me and what I am looking for in a job.
5. The attributes that I look for in a job are fulfilled very well by my present job.
6. The job that I currently hold gives me just about everything that I want from a job.

Demands-Abilities Fit
7. The match is very good between the demands of my job and my personal skills.
8. My abilities and training are a good fit with the requirements of my job.
9. My personal abilities and education provide a good match with the demands that my job places on me.

Manifest Needs Questionnaire – Steers & Braunstein (1976)

Need for Achievement
Need for Affiliation
Need for Autonomy
Need for Power

1. I do my best work when my job assignments are fairly difficult
2. I try very hard to improve on my past performance at work
3. I take moderate risks and stick my neck out to get ahead at work
4. I try to avoid any added responsibilities on my job
5. I try to perform better than my co-workers
6.
7. When I have a choice, I try to work in a group instead of by myself
8. I pay a good deal of attention to the feelings of others at work
9. I prefer to do my own work and let others do theirs
10. I express my disagreements with others openly
11. I find myself talking to those around me about non-business related matters
12.
13. In my work assignments, I try to be my own boss
14. I go my own way at work, regardless of the opinions of others
15. I disregard rules and regulations that hamper my personal freedom
16. I consider myself a "team player" at work
17. I try my best to work alone on a job
18.
19. I seek an active role in the leadership of a group
20. I avoid trying to influence those around me to see things my way
21. I find myself organizing and directing the activities of others
22. I strive to gain more control over the events around me at work
23. I strive to be "in command" when I am working in a group

Self-esteem – Robinson & Shaver (1973)

1. How often do you have the feeling that there is nothing that you can do well?
2. When you talk in front of a class or group of people your own age, how often do you feel worried or afraid?
3. How often do you feel that you have handled yourself well at a social gathering?
4. How often do you have the feeling that you can do everything well?
5. How often are you comfortable when starting a conversation with people you don't know?
6. How often do you feel self-conscious?
7. How often do you feel that you are a successful person?
8. How often are you troubled with shyness?
9. How often do you feel inferior to most people you know?
10. How often do you feel that you are a worthless individual?
11. How often do you feel confident that you success in your future job or career is assured?
12. How often do you feel sure of yourself when among strangers?
13. How often do you feel confident that some day people will look up to you and respect you?
14. In general, how often do you feel confident about your abilities?

15. How often do you worry about how well you get along with other people?
16. How often do you feel that you dislike strangers?
17. How often do you feel so discouraged with yourself that you wonder whether anything is worthwhile?

Trust

Clark, M.C., & Payne, R.L. (1997). The nature and structure of worker's trust in management. *Journal of Organizational Behavior, 18,* 205-224.

Integrity
1. Most managers are honest and truthful about information to do with the job.
2. Most managers are sincere in their attempts to meet the worker's point of view about the job.
3. I believe that most managers will keep their word about rewards offered for completion of a task.
4. I believe what I am told by management about future plans for the company.

Competence
1. Most managers are incompetent at managing the workers.
2. Management are competent when it comes to matters of safety on the job.
3. Management shows good judgment when making decisions about the job.
4. Most managers do not understand when a worker should be rewarded for a job well done.
5. Management makes decisions that threaten the future of our team.

Consistency of fairness
1. I believe that managers apply the same rules for all workers.
2. I believe management treats workers fairly.
3. Management can be relied upon to reward workers for their achievements.
4. I can rely on management to do what is best for the long term survival of the team.

Loyalty
1. My actions are supported by the manager in charge of the job.
2. I can rely on management to try to help me out when I run into difficulties with the job.
3. Management takes the credit for success without acknowledging the workmen's contribution.
4. Most managers show little appreciation of the future interests of the men.

Openness
1. Management listens to my suggestions about how the job should be done.
2. Most managers do not openly share ideas and information about the job with the workmen.
3. Most managers have shown that I can express my opinions and not hold them against me.
4. Most managers openly share information on matters affecting incentive payments.
5. Management openly shares information about future plans.

Respect shown
1. Management respects my ability and knowledge of the job.
2. Managers treat workers doing the job with respect.
3. Management respects the workman's position over rewards.

4. Managers respect my view when planning a job.

Turnover Intentions

Camman, C., Fichman, M., Jenkings, D., & Klesh, M. (1979). The Michigan Organizational Assessment Questionnaire (Unpublished manuscript). Ann Arbor, MI: University of Michigan.

Michigan organization assessment questionnaire [MOAQ] Intention to turn over (1982). Cammann C; Fischman M; Jenkins D; Klesh J. IN: Price LL and Mueller CW (1986). Handbook of organizational measurement. Marshfield, Mass.: Pitman. Pg.72-74

Definite turnover plans within a time period
1. I have already told management when I'm leaving this organization.
2. I know when my last day will be at this organization.
3. I plan to quit this organization within 2-4 weeks.
4. I plan to quit this organization within 2-4 months.

Conditional turnover plans
1. If something else bad happens, I will quit this organization.
2. As soon as I get another acceptable job, I will quit.
3. If I get the chance, I will gladly quit this organization.
4. If I get another job that pays as well, I will quit this organization.

Turnover desire
1. I want to leave this organization very much.
2. I intend to quit this organization someday soon.
3. I think about quitting all the time.
4. I am thinking about quitting right now.
5. I think of quitting every time something goes wrong.

Work Centrality

Paullay, I. M., Alliger, G. M., & Stone-Romero, E. F. (1994). Construct validation of two instruments designed to measure job involvement and work centrality. *Journal of Applied Psychology, 79,* 224-228.

1. Work should only be a small part of one's life (reverse scored)
2. In my view, an individual's personal life goals should be work oriented
3. Life is worth living only when people get absorbed in work
4. The major satisfaction in my life comes from my work
5. The most important things that happen to me involve my work
6. I have other activities more important than my work (reverse scored)
7. Work should be considered central to life
8. I would probably keep working even if I didn't need the money
9. To me, my work is only a small part of who I am (reverse scored)
10. Most things in life are more important than work (reverse scored)
11. If the unemployment benefit was really high, I would still prefer to work
12. Overall, I consider work to be very central to my existence

Appendix B: Survey Question Bank

Questions are answered using the five point Likert scale

1. The work I do is very important to me.
2. My job activities are personally meaningful to me.
3. The work I do is meaningful to me.
4. I feel a great sense of personal satisfaction when I do my job well.
5. Doing my job well increases my feelings of self-esteem.
6. I feel bad when I do my job poorly.
7. My opinion of myself goes up when I do this job well.
8. I feel a great sense of personal satisfaction when I do this job well.
9. I feel bad and unhappy when I discover that I have performed poorly on this job.
10. My own feelings generally are not affected much one way or the other by how well I do on this job.
11. Most people on this job feel a great sense of personal satisfaction when they do the job well.
12. Most people on this job feel bad or unhappy when they find that they have performed the work poorly.
13. I feel a sense of personal satisfaction when I do this job well.
14. My opinion of myself goes down when I do this job badly.
15. I take pride in doing my job as well as I can.
16. I feel unhappy when my work is not up to my usual standard.
17. I like to look back on the day's work with a sense of a job well done.
18. I try to think of ways of doing my job effectively.
19. There are opportunities for advancement to higher level jobs.
20. The job provides for feelings of achievement and task accomplishment.
21. The job allows participation in work-related decision making.
22. The pay on this job is adequate compared with the job requirements and with the pay in similar jobs.
23. The job is highly specialized in terms of purpose, tasks, or activities.
24. The tools, procedures, materials, and so forth, used on this job are highly specialized in terms of purpose.
25. The tasks are simple and uncomplicated.
26. The job requires relatively little skill and training time.
27. The job requires performing the same activity(ies) repeatedly.
28. How much variety is there in your job?
29. How repetitious are your duties?
30. How similar are the tasks you perform in a typical work day?
31. The opportunity to do a number of different things.
32. The amount of variety in my job.
33. How much are you left on your own to do your own work?
34. To what extent are you able to act independently of your supervisors in performing your job function?
35. To what extent are you able to do your job independently of others?
36. The opportunity for independent thought and action.
37. The freedom to do pretty much what I want on my job.

38. The control I have over the pace of my work.
39. In general, how *significant* or *important* is your job? That is, are the results of your work likely to significantly affect the lives or well-being of other people?
40. This job is one where a lot of other people can be affected by how well the work gets done.
41. The job itself is very significant and important in the broader scheme of things.
42. Most of the things I have to do on this job seem useless or trivial.
43. The work I do on this job is very meaningful for me.
44. It's hard, on this job, for me to care very much about whether or not the work gets done right.
45. I feel a very high degree of personal responsibility for the work I do on this job.
46. I feel I should personally take the credit or blame for the results of my work on this job.
47. Whether or not this job gets done right is clearly my responsibility.
48. To what extent is high skill level required?
49. To what extent are you required to learn new things?
50. To what extent is your work non-repetitious?
51. To what extent does your job require creativity?
52. The most important things that happen to me involve my work.
53. I live, eat, and breathe my job.
54. I am very much personally involved in my work.
55. The amount of job security I have.
56. How secure things look for me in the future in this organization.
57. The amount of pay and fringe benefits I receive.
58. The degree to which I am fairly paid for what I contribute to this organization.
59. The people I talk to and work with on my job.
60. The chance to get to know other people while on the job.
61. The chance to help other people while at work.
62. The degree of respect and fair treatment I receive from my boss.
63. The amount of support and guidance I receive from my supervisor.
64. The overall quality of supervision I receive in my work.
65. There is really too little chance for promotion on my job.
66. Those who do well on the job stand a fair chance of being promoted.
67. People get ahead as fast here as they do in other places.
68. I am satisfied with my chances for promotion.
69. Generally speaking, I am very satisfied with this job.
70. I am generally satisfied with the kind of work I do in this job.
71. I frequently think of quitting this job.
72. I would be very happy to spend the rest of my career with this organization.
73. I do not feel like "part of the family" at my organization.
74. I do not feel any obligation to remain with my current employer.
75. I would feel guilty if I left my organization now.
76. My take-home pay.
77. My benefit package.
78. My most recent raise.
79. The raises I have typically received in the past.
80. The company's pay structure.
81. My overall level of pay.
82. Size of my current salary.

83. I feel that my work utilizes my full abilities.
84. I feel competent and fully able to handle my job.
85. My job gives me a chance to do the things I feel I do best.
86. I feel that my job and I are well matched.
87. I feel I have adequate preparation for the job I now hold.
88. The organization values my contribution to its well-being.
89. The organization strongly considers my goals and values.
90. Help is available from the organization when I have a problem.
91. The organization really cares about my well-being.
92. The organization is willing to help me when I need a special favor.
93. The organization cares about my general satisfaction at work.
94. The organization cares about my opinions.
95. The organization takes pride in my accomplishments at work.
96. The organization tries to make my job as interesting as possible.
97. This organization pays on the basis of individual performance.
98. This organization has a profit or gain-sharing plan.
99. This organization makes promotions based mostly on individual performance.
100.   This organization encourages competition between employees.
101.   This organization encourages and rewards loyalty.
102.   Teamwork and cooperation are valued and rewarded here.
103.   When the organization has a good year it pays bonuses to the employees.
104.   People generally have to work in groups to get their work done.
105.   This organization offers long-term employment security.
106.   This organization has a "fast-track" program.
107.   This organization has/follows a promote-from-within policy.
108.   The typical employee here works very hard to fulfill work expectations.
109.   There is an emphasis on helping others.
110.   Fairness is an important consideration in organizational activities.
111.   When mistakes are made it is best to be honest and "take your lumps".
112.   The things that I value in life are very similar to the things that my organization values.
113.   My personal values match my organization's values and culture.
114.   My organization's values and culture provide a good fit with the things that I value in life.
115.   There is a good fit between what my job offers me and what I am looking for in a job.
116.   The attributes that I look for in a job are fulfilled very well by my present job.
117.   The job that I currently hold gives me just about everything that I want from a job.
118.   The match is very good between the demands of my job and my personal skills.
119.   My abilities and training are a good fit with the requirements of my job.
120.   My personal abilities and education provide a good match with the demands that my job places on me.
121.   I do my best work when my job assignments are fairly difficult.
122.   I try very hard to improve on my past performance at work.
123.   I take moderate risks and stick my neck out to get ahead at work.
124.   I try to avoid any added responsibilities on my job.
125.   I try to perform better than my co-workers.
126.   When I have a choice, I try to work in a group instead of by myself.

127. I pay a good deal of attention to the feelings of others at work.
128. I prefer to do my own work and let others do theirs.
129. I express my disagreements with others openly.
130. I find myself talking to those around me about non-business-related matters.
131. In my work assignments, I try to be my own boss.
132. I go my own way at work, regardless of the opinions of others.
133. I disregard rules and regulations that hamper my personal freedom.
134. I consider myself a "team player" at work.
135. I try my best to work alone on a job.
136. I seek an active role in the leadership of a group.
137. I avoid trying to influence those around me to see things my way.
138. I find myself organizing and directing the activities of others.
139. I strive to gain more control over the events around me at work.
140. I strive to be "in command" when I am working in a group.
141. How often do you feel inferior to most people you know?
142. How often do you feel that you are a worthless individual?
143. How often do you feel confident that your success in your future job or career is assured?
144. Most managers are honest and truthful about information to do with the job.
145. Most managers are sincere in their attempts to meet the worker's point of view about the job.
146. I believe that most managers will keep their word about rewards offered for completion of a task.
147. I believe what I am told by management about future plans for the company.
148. Most managers are incompetent at managing the workers.
149. Management are competent when it comes to matters of safety on the job.
150. Management shows good judgment when making decisions about the job.
151. Most managers do not understand when a worker should be rewarded for a job well done.
152. Management makes decisions that threaten the future of our team.
153. I believe that managers apply the same rules for all workers.
154. I believe management treats workers fairly.
155. Management can be relied upon to reward workers for their achievements.
156. I can rely on management to do what is best for the long-term survival of the team.
157. My actions are supported by the manager in charge of the job.
158. I can rely on management to try to help me out when I run into difficulties with the job.
159. Management takes the credit for success without acknowledging the workmen's contribution.
160. Most managers show little appreciation of the future interests of the men.
161. Management listens to my suggestions about how the job should be done.
162. Most managers do not openly share ideas and information about the job with the workmen.
163. Most managers have shown that I can express my opinions and not hold them against me.
164. Most managers openly share information on matters affecting incentive payments.
165. Management openly shares information about future plans.
166. Management respects my ability and knowledge of the job.
167. Managers treat workers doing the job with respect.
168. Management respects the workman's position over rewards.

169. Managers respect my view when planning a job.
170. I have already told management when I'm leaving this organization.
171. I know when my last day will be at this organization.
172. I plan to quit this organization within 2-4 weeks.
173. I plan to quit this organization within 2-4 months.
174. If something else bad happens, I will quit this organization.
175. As soon as I get another acceptable job, I will quit.
176. If I get the chance, I will gladly quit this organization.
177. If I get another job that pays as well, I will quit this organization.
178. I want to leave this organization very much.
179. I intend to quit this organization someday soon.
180. I think about quitting all the time.
181. I am thinking about quitting right now.
182. I think of quitting every time something goes wrong.
183. Work should only be a small part of one's life (reverse scored).
184. In my view, an individual's personal life goals should be work oriented.
185. Life is worth living only when people get absorbed in work.
186. The major satisfaction in my life comes from my work.
187. The most important things that happen to me involve my work.
188. I have other activities more important than my work (reverse scored).
189. Work should be considered central to life.
190. I would probably keep working even if I didn't need the money.
191. To me, my work is only a small part of who I am (reverse scored).
192. Most things in life are more important than work (reverse scored).
193. If the unemployment benefit was really high, I would still prefer to work.
194. Overall, I consider work to be very central to my existence.

Appendix C: Raw Survey Data

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Q1	4	4	4	2	2	5	5	4	4	4	1	3	4	2	2	2	4	5	4	5	4	2	4	5	5	3	3	5	1	2	3
Q2	4	4	3	1	2	4	4	4	4	4	1	3	4	2	2	2	4	4	4	5	3	2	4	5	5	3	3	4	1	1	4
Q3	4	3	4	1	4	5	3	4	3	2	2	1	4	4	3	3	1	5	5	5	3	2	3	4	4	3	3	4	1	2	4
Q4	5	4	4	5	4	5	5	4	4	4	4	2	4	3	4	4	4	5	5	5	5	5	4	4	5	2	5	4	1	2	3
Q5	4	4	4	5	2	4	4	3	5	4	4	2	4	3	4	3	4	5	4	4	5	5	4	4	5	5	5	4	3	1	4
Q6	5	4	4	4	3	4	5	4	5	4	4	3	5	4	2	4	5	5	3	5	5	5	5	5	4	5	4	4	3	4	4
Q7	2	2	2	2	2	4	1	4	2	2	4	4	1	3	2	2	1	2	3	1	2	2	3	2	4	2	2	3	4	4	3
Q8	5	2	4	1	4	4	4	4	2	4	4	1	4	1	2	1	4	5	2	5	5	2	4	3	5	3	4	4	3	4	3
Q9	4	4	4	1	4	4	5	4	4	4	4	1	4	3	3	3	3	5	5	4	4	4	4	4	4	2	4	4	1	1	4
Q10	5	4	3	2	4	2	5	4	4	4	5	3	4	4	4	4	4	5	2	4	4	1	4	4	5	2	4	3	3	1	2
Q11	4	4	3	2	4	4	3	4	5	2	2	4	2	4	3	5	4	5	4	4	3	4	4	5	4	2	5	2	3	4	3
Q12	4	4	4	1	2	2	5	5	3	4	1	1	4	2	2	1	3	5	4	4	4	4	5	4	4	3	4	5	1	5	4
Q13	4	4	4	4	4	3	4	4	4	4	1	2	4	5	3	1	4	5	5	4	2	1	5	3	4	1	4	3	1	1	2
Q14	2	2	3	1	4	4	2	1	1	1	5	3	2	5	1	5	3	2	2	2	3	4	1	2	3	4	5	3	5	5	3
Q15	2	2	3	1	2	4	2	1	2	1	5	4	2	4	1	3	3	1	2	2	1	4	1	4	3	4	5	1	5	1	4
Q16	3	2	5	5	4	4	4	5	1	2	5	4	2	5	2	4	3	2	4	4	4	5	4	2	4	5	5	4	5	4	3
Q17	4	4	4	1	2	2	4	3	5	4	1	2	4	1	4	4	3	4	1	3	4	1	3	4	4	1	2	4	1	1	5
Q18	4	2	3	5	4	4	4	4	1	2	5	4	2	5	3	4	4	4	5	4	4	5	4	2	4	5	5	4	5	5	3
Q19	4	4	3	1	4	2	4	4	4	4	2	2	4	1	3	5	4	4	2	4	4	5	4	4	4	2	2	4	1	4	2
Q20	2	4	4	4	4	4	5	4	4	4	2	5	4	2	4	5	3	2	2	4	5	4	3	5	5	5	5	3	4	5	3
Q21	3	3	5	5	4	4	4	4	4	4	4	4	4	3	4	4	5	2	2	4	5	5	5	5	5	4	5	5	3	5	4
Q22	3	3	2	1	4	4	4	3	2	4	2	4	2	1	3	3	5	2	2	4	5	4	3	4	5	5	5	4	4	5	4
Q23	4	2	4	1	2	2	2	5	3	4	4	1	5	1	2	3	1	4	2	4	4	5	5	3	4	2	1	5	2	1	4
Q24	4	2	4	1	4	5	2	5	4	4	4	1	5	4	2	4	1	4	4	5	4	2	4	3	4	2	1	4	3	4	3

Q25	5	**4**	**4**	3	4	1	**5**	4	4	2	4	**1**	5	4	2	3	**1**	**4**	4	5	5	2	5	4	4	4	1	5	3	4	3
Q26	2	**2**	**3**	4	2	3	**4**	3	2	4	5	**4**	2	4	4	4	**5**	**1**	3	1	4	4	2	2	3	2	3	1	3	2	4
Q27	4	**4**	**3**	1	2	3	**5**	3	3	4	1	**2**	4	2	1	2	**4**	**4**	3	4	4	2	4	5	4	3	3	5	1	2	4
Q28	4	**4**	**4**	4	4	4	**3**	2	3	4	2	**1**	4	4	3	3	**3**	**4**	5	4	2	1	4	4	2	3	2	4	2	5	3
Q29	2	**2**	**1**	2	2	3	**1**	2	4	2	4	**5**	1	2	4	2	**3**	**2**	1	1	1	2	3	2	2	1	2	1	2	1	4
Q30	4	**4**	**5**	5	2	4	**5**	4	4	4	2	**2**	4	3	2	3	**4**	**4**	4	5	5	2	4	4	4	4	2	5	3	4	3
Q31	3	**4**	**4**	5	2	4	**5**	4	5	4	2	**3**	4	2	3	3	**4**	**4**	4	5	5	2	3	4	4	4	1	5	4	4	3
Q32	4	**4**	**3**	4	4	2	**4**	4	3	5	1	**1**	4	1	4	1	**3**	**4**	2	4	4	1	5	3	4	1	1	4	1	4	2
Q33	5	**4**	**4**	4	4	4	**5**	4	5	5	2	**3**	4	4	4	3	**3**	**4**	2	4	4	3	5	5	5	4	1	4	3	4	3
Q34	4	**3**	**3**	1	4	2	**5**	4	4	5	2	**2**	4	2	2	2	**3**	**4**	4	4	4	1	4	4	4	2	1	5	1	1	4
Q35	3	**2**	**1**	1	1	1	**2**	2	3	2	1	**1**	4	1	1	1	**3**	**4**	3	4	1	1	3	2	2	2	1	2	1	1	2
Q36	2	**2**	**2**	1	1	2	**1**	1	2	2	1	**1**	4	1	1	1	**2**	**2**	2	2	1	1	1	2	1	1	1	4	1	2	3
Q37	4	**4**	**2**	1	2	2	**4**	3	3	2	1	**1**	4	3	2	2	**3**	**4**	4	2	4	4	4	4	3	2	1	5	1	5	5
Q38	5	**3**	**5**	1	3	4	**5**	3	3	4	4	**3**	4	5	5	5	**4**	**4**	5	4	5	4	5	5	5	2	1	5	3	2	4
Q39	5	**2**	**5**	4	3	4	**4**	2	3	4	5	**3**	5	5	5	4	**4**	**4**	5	3	5	3	5	5	5	1	1	5	3	5	4
Q40	5	**3**	**4**	4	2	3	**4**	3	3	4	4	**3**	5	3	4	5	**3**	**4**	4	4	5	4	5	5	5	1	3	5	3	4	4
Q41	4	**4**	**4**	5	4	4	**5**	3	4	5	4	**2**	5	5	4	4	**4**	**4**	4	5	5	4	5	4	5	3	3	5	4	5	4
Q42	5	**4**	**4**	1	4	4	**5**	4	4	5	5	**4**	5	5	4	4	**4**	**4**	5	4	5	5	5	4	5	4	4	5	4	1	4
Q43	5	**4**	**4**	2	4	4	**4**	4	4	5	4	**2**	5	4	4	4	**4**	**4**	5	4	4	4	5	3	5	4	4	4	3	1	3
Q44	4	**4**	**4**	5	4	4	**4**	4	4	5	2	**3**	4	4	2	5	**3**	**4**	4	5	4	2	4	4	5	5	4	5	3	5	4
Q45	4	**4**	**4**	5	4	4	**4**	4	5	5	3	**3**	4	2	4	5	**3**	**4**	3	5	4	1	3	3	5	2	2	5	3	5	4
Q46	4	**4**	**4**	4	4	4	**4**	4	4	5	2	**3**	4	3	4	5	**3**	**4**	2	4	4	2	3	3	5	2	4	5	1	5	4
Q47	3	**2**	**2**	5	2	2	**1**	3	3	2	4	**3**	2	5	5	3	**3**	**2**	3	2	4	5	3	3	2	4	4	2	3	4	4

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Q48	4	3	5	1	4	4	5	5	4	3	2	3	4	3	1	4	4	4	4	4	2	2	4	4	4	2	2	3	3	2	3
Q49	4	3	3	1	2	4	4	3	3	3	2	3	2	2	1	3	3	4	3	4	2	1	3	3	3	2	1	4	3	1	3
Q50	5	4	4	1	3	5	4	3	4	4	3	4	4	2	1	3	3	4	4	4	2	1	4	4	4	1	1	5	3	4	3
Q51	4	4	4	3	3	4	4	3	4	4	2	3	4	2	2	2	3	4	3	4	4	2	5	4	4	2	4	5	1	4	3
Q52	4	4	4	1	4	4	4	4	4	4	2	3	4	3	2	1	3	4	3	4	4	2	5	5	4	2	3	4	1	4	2
Q53	1	2	1	4	2	2	1	4	3	2	5	1	1	5	4	5	3	1	2	2	2	1	1	1	1	3	2	2	4	2	3
Q54	1	2	2	5	2	4	1	5	3	2	4	4	4	2	5	3	3	1	1	2	1	2	2	2	1	5	4	1	2	1	3
Q55	2	2	2	2	3	2	1	4	3	2	4	4	1	2	4	3	2	1	3	3	1	4	2	2	3	4	3	1	3	4	3
Q56	2	4	4	5	2	4	5	2	4	4	1	1	2	2	1	1	4	2	4	3	5	2	5	4	1	2	2	3	1	5	3
Q57	3	3	4	4	3	4	4	3	5	2	2	4	4	4	4	4	4	3	4	4	2	2	4	4	4	4	5	3	3	4	4
Q58	4	3	4	4	4	1	5	4	5	2	4	5	5	4	4	4	4	4	3	4	4	4	5	3	4	2	2	4	3	4	1
Q59	5	3	4	4	4	4	4	4	4	2	4	3	4	4	3	4	4	3	4	3	5	3	4	3	4	2	3	4	3	4	3
Q60	4	4	3	1	2	2	4	3	4	4	1	1	2	1	2	1	3	4	2	4	4	1	5	4	4	1	2	4	1	1	3
Q61	4	4	3	1	2	3	4	4	5	5	4	2	4	1	4	1	2	4	3	4	5	4	5	3	5	4	1	5	1	5	3
Q62	4	3	3	1	4	3	3	2	4	2	1	2	4	1	1	1	1	4	2	3	4	1	4	5	4	2	1	5	1	2	3
Q63	4			4	4	4		5	5	4	5		4	4	2	4			5	4	4	4	4	4	5	4	5	5	3	5	3
Q64	4			1	2	4		3	4	4	1		4	1	2	2			3	4	2	1	4	4	5	2	1	4	1	2	3
Q65	4			2	2	3		2	4	4	2		2	2	2	2			4	4	4	1	5	3	4	2	1	3	1	4	3
Q66	4			4	4	3		2	5	4	2		2	3	2	3			4	4	4	1	5	3	4	2	2	5	3	4	3
Q67	4			1	4	3		2	5	4	1		2	2	2	3			4	5	4	1	4	3	4	2	3	5	1	2	3
Q68	5			4	4	4		2	3	4	1		4	2	2	1			3	4	4	2	5	4	4	2	2	4	3	4	3
Q69	5			4	4	3		3	5	4	2		4	3	2	2			3	4	4	2	4	4	4	2	2	4	3	4	3
Q70	4			1	4	4		3	5	4	1		4	1	2	1			4	4	2	1	4	4	4	2	2	4	1	4	3

Q																															
Q71	4			1	4	3		4	5	4	1		4	1	3	2			4	4	4	1	4	4	4	2	2	4	1	4	3
Q72	4			1	4	4		4	4	5	1		4	1	2	1			4	4	5	1	5	4	4	1	2	4	1	5	3
Q73	4			1	2	4		4	1	5	1		4	1	2	1			4	4	2	1	4	4	4	2	2	4	1	5	3
Q74	4			2	2	4		4	5	5	5		4	4	3	4			4	5	5	4	4	5	4	3	2	4	3	5	3
Q75	4			4	2	3		4	3	2	4		4	3	2	4			4	4	5	5	3	3	4	2	2	3	3	4	3
Q76	2			2	3	3		2	1	1	2		2	2	3	1			2	1	1	1	3	2	2	3	4	2	2	1	3
Q77	4			5	2	4		4	4	4	1		2	3	3	4			2	3	1	2	3	3	2	2	2	4	2	5	3
Q78	5			5	4	4		3	4	5	2		4	4	5	4			4	4	4	4	4	2	4	5	5	4	3	5	3
Q79	2			3	3	4		4	3	2	5		4	4	4	1			3	4	5	5	4	3	4	4	4	2	3	2	3
Q80	4			5	2	4		4	4	4	4		4	5	4	4			4	5	4	3	4	4	3	2	4	3	5	3	3
Q81	5			5	4	4		4	4	5	4		4	4	3	4			5	4	2	4	5	4	5	4	3	4	4	5	3
Q82	2			2	3	4		3	3	2	4		3	3	3	2			2	2	5	5	2	3	4	2	4	2	3	2	3
Q83	3			1	2	4		1	2	4	2		3	2	4	3			4	4	2	2	3	2	4	2	3	3	4	2	3
Q84	4			5	2	4		4	4	4	4		4	5	2	4			4	2	4	4	3	2	4	3	2	3	4	5	3
Q85	2			1	2	4		2	4	3	1		1	2	4	3			1	2	2	2	1	2	2	2	1	1	1	1	3
Q86	1			1	1	4		2	2	2	1		1	1	2	3			1	1	1	1	1	2	1	2	2	1	1	1	5
Q87	4			5	4	4		3	4	2	5		5	4	2	3			4	4	4	2	4	4	5	3	3	4	3	4	3
Q88	4			5	3	3		4	4	4	2		4	2	3	3			3	4	2	1	3	3	5	4	3	4	3	2	3
Q89	4			4	3	4		4	4	4	1		4	2	3	3			3	4	2	1	3	3	5	3	2	4	3	2	3
Q90	4			4	4	5		3	4	4	2		4	3	2	3			3	4	1	2	4	4	4	4	2	4	3	4	3
Q91	4			5	4	4		2	3	4	1		4	2	2	2			2	4	2	1	3	4	5	3	3	4	2	4	3
Q92	2			4	2	4		3	2	3	5		4	3	4	4			2	2	5	5	2	2	1	2	3	1	3	1	3
Q93	4			2	4	4		2	4	4	1		4	3	2	3			3	4	2	2	4	3	4	4	2	4	2	1	3

	C1			C2	C3	C4		C5	C6	C7	C8		C9	C10	C11	C12			C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23	C24	C25
Q94	2			4	2	4		2	4	3	5		2	4	4	4			2	2	5	5	3	3	2	2	4	2	3	4	3
Q95	4			1	2	5		1	2	2	2		4	2	3	1			2	4	1	2	3	2	4	3	2	4	3	1	3
Q96	4			2	4	4		2	3	4	2		4	3	2	3			4	4	1	2	4	4	5	3	4	5	3	1	3
Q97	4			2	4	4		2	3	2	2		4	4	2	3			3	4	1	1	3	3	4	3	1	4	2	2	3
Q98	4			5	4	4		2	4	4	4		4	4	4	5			4	4	4	5	5	4	5	3	1	4	3	5	3
Q99	4			5	4	5		2	4	4	3		4	3	3	4			3	4	4	2	5	5	4	5	1	5	2	5	3
Q100	2			2	2	4		4	1	2	4		2	2	2	3			2	2	4	3	3	2	3	3	3	1	4	2	3
Q101	4			4	4	4		2	4	4	1		4	2	4	4			4	4	4	4	5	3	4	4	1	5	2	2	3
Q102	2			2	4	4		4	2	2	4		2	3	3	3			3	2	4	2	3	2	2	3	4	2	3	4	3
Q103	4			2	4	5		2	4	2	3		4	2	3	5			4	4	4	4	4	3	5	3	1	4	3	5	3
Q104	4			4	4	4		2	2	4	2		4	3	4	2			2	4	3	2	5	4	4	3	2	4	2	5	3
Q105	4			5	4	5		2	4	4	1		4	2	4	4			5	4	4	4	5	4	5	4	3	5	3	5	3
Q106	4			5	4	4		2	4	4	2		4	4	4	4			3	4	4	3	4	5	5	4	3	5	3	5	3
Q107	4			5	3	3		2	3	4	2		4	2	3	4			4	4	3	4	5	4	5	3	3	4	3	5	3
Q108	5			1	1	4		2	1	2	5		2	4	3	1			5	3	4	3	3	1	1	5	1	5	5	1	3
Q109	5			5	1	3		2	2	2	5		1	4	2	4			4	2	2	2	2	3	1	1	1	5	5	1	3
Q110	3			2	3	5		2	1	2	4		1	1	1	2			3	2	2	1	1	1	1	1	1	3	1	1	3
Q111	1			2	3	3		4	1	2	5		1	2	3	3			2	2	1	2	2	3	1	1	1	1	1	2	3
Q1	3			5	3	4		3	1	2	5		1	2	2	4			3	2	1	4	2	2	1	2	3	1	1	2	3

Q112																															
Q113	3			2	3	4		3	1	2	5		1	2	2	4			3	3	1	4	2	2	1	5	5	1	1	2	3
Q114	1			5	2	3		3	1	2	5		1	4	4	4			2	2	1	2	1	1	1	3	1	1	4	4	3
Q115	1			2	2	4		2	1	2	5		1	2	1	3			1	2	1	2	1	1	1	2	1	1	3	2	3
Q116	1			2	1	5		4	1	2	5		1	2	1	1			2	2	1	4	1	1	1	4	1	1	3	1	3
Q117	3			1	3	4		2	2	2	1		2	1	2	1			2	2	2	2	2	2	2	2	1	2	2	4	3
Q118	2			1	1	4		1	3	2	1		4	1	1	1			3	4	1	2	1	2	1	2	1	2	1	2	3
Q119	4			5	5	3		5	4	4	5		2	5	5	5			3	3	5	4	4	4	5	5	5	4	5	1	3
Q120	3			5	1	5		1	3	3	1		4	2	1	1			3	4	4	4	3	2	4	5	2	2	1	1	3
Q121	4			5	2	4		4	2	4	4		4	3	2	3			4	2	4	2	3	2	4	2	1	2	3	5	3
Q122	2			3	3	2		2	2	1	2		2	3	3	2			2	2	2	2	3	2	2	3	2	3	3	3	3
Q123	2			2	2	2		2	2	1	2		1	2	2	2			1	2	1	1	2	2	2	2	2	2	2	2	2
Q124	3			1	1	1		3	3	2	3		3	3	3	2			2	1	2	2	2	3	2	1	1	3	3	1	3
Q125	2			9	2	2		3	1	1	3		3	2	9	1			9	1	2	1	5	1	1	5	1	2	1	5	1
Q126	3			1	1	2		2	2	1	4		3	1	4	3			3	2	2	1	4	2	1	6	1	2	1	3	1
Q127	4			1	1	1		3	1	3	2		7	1	7	7			7	1	7	1	7	2	3	1	3	3	1	1	1
Q128	2			3	2	2		1	2	1	1		1	2	2	2			1	1	1	2	2	2	1	2	1	2	1	1	3
Q129	2			2	1	1		2	1	2	2		2	1	1	2			2	2	2	2	2	2	2	1	2	1	2	2	1

29																															
Q130			2	1			4					1	4													1		2		3
Q131			1	1			1					1	1															1		2
Q132	5			3	5	5		6	5	5	6		5	6	6	6			5	6	6	6	6	6	6	5	3	3	5	3	6
Q133	5			7	1	6		6	4	3	8		4	8	11	4			4	6	4	3	7	6	7	11	5	6	10	7	4
Q134	85			48	51	70		38	70	0			50	100	0				70	50	0	0	5	30	60	20	70	0		10	32

123

Appendix D: Respondent Data Conditionally Formatted:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Q1	4	4	4	2	2	5	5	4	4	4	1	3	4	2	2	2	4	5	4	5	4	2	4	5	5	3	3	5	1	2	3
Q2	4	4	3	1	2	4	4	4	4	4	1	3	4	2	2	2	4	4	4	5	3	2	4	5	5	3	3	4	1	1	4
Q3	4	3	4	1	4	5	3	4	3	2	2	1	4	4	3	3	1	5	5	5	3	2	3	4	4	3	3	4	1	2	4
Q4	5	4	4	5	4	5	5	4	4	4	4	2	4	3	4	4	4	5	5	5	5	5	4	4	5	2	5	4	1	2	3
Q5	4	4	4	5	2	4	4	3	5	4	4	2	4	3	4	3	4	5	4	4	5	5	4	4	5	5	5	4	3	1	4
Q6	5	4	4	4	3	4	5	4	5	4	4	3	5	4	2	4	5	5	3	5	5	5	5	5	4	5	4	4	3	4	4
Q7	2	2	2	2	2	4	1	4	2	2	4	4	1	3	2	2	1	2	3	1	2	2	3	2	4	2	2	3	4	4	3
Q8	5	2	4	1	4	4	4	4	2	4	4	1	4	1	2	1	4	5	2	5	5	2	4	3	5	3	4	4	3	4	3
Q9	4	4	4	1	4	4	5	4	4	4	4	1	4	3	3	3	3	5	5	4	4	4	4	4	4	2	4	4	1	1	4
Q10	5	4	3	2	4	2	5	4	4	4	5	3	4	4	4	4	4	5	2	4	4	1	4	4	5	2	4	3	3	1	2
Q11	4	4	3	2	4	4	3	4	5	2	2	4	2	4	3	5	4	5	4	4	3	4	4	5	4	2	5	2	3	4	3
Q12	4	4	4	1	2	2	5	5	3	4	1	1	4	2	2	1	3	5	4	4	4	4	5	4	4	3	4	5	1	5	4
Q13	4	4	4	4	4	3	4	4	4	4	1	2	4	5	3	1	4	5	5	4	2	1	5	3	4	1	4	3	1	1	2
Q14	2	2	3	1	4	4	2	1	1	1	5	3	2	5	1	5	3	2	2	2	3	4	1	2	3	4	5	3	5	5	3
Q15	2	2	3	1	2	4	2	1	2	1	5	4	2	4	1	3	3	1	2	2	1	4	1	4	3	4	5	1	5	1	4
Q16	3	2	5	5	4	4	4	5	1	2	5	4	2	5	2	4	3	2	4	4	4	5	4	2	4	5	5	4	5	4	3
Q17	4	4	4	1	2	2	4	3	5	4	1	2	4	1	4	4	3	4	1	3	4	1	3	4	4	1	2	4	1	1	5
Q18	4	2	3	5	4	4	4	4	1	2	5	4	2	5	3	4	4	4	5	4	4	5	4	2	4	5	5	4	5	5	3
Q19	4	4	3	1	4	2	4	4	4	4	2	2	4	1	3	5	4	4	2	4	4	5	4	4	4	2	2	4	1	4	2
Q20	2	4	4	4	4	4	5	4	4	4	2	5	4	2	4	5	3	2	2	4	5	4	3	5	5	5	5	3	4	5	3
Q21	3	3	5	5	4	4	4	4	4	4	4	4	4	3	4	4	5	2	2	4	5	5	5	5	5	4	5	5	3	5	4
Q22	3	3	2	1	4	4	4	3	2	4	2	4	2	1	3	3	5	2	2	4	5	4	3	4	5	5	5	4	4	5	4
Q23	4	2	4	1	2	2	2	5	3	4	4	1	5	1	2	3	1	4	2	4	4	5	5	3	4	2	1	5	2	1	4
Q24	4	2	4	1	4	5	2	5	4	4	4	1	5	4	2	4	1	4	4	5	4	2	4	3	4	2	1	4	3	4	3
Q25	5	4	4	3	4	1	5	4	4	2	4	1	5	4	2	3	1	4	4	5	5	2	5	4	4	4	1	5	3	4	3
Q26	2	2	3	4	2	3	4	3	2	4	5	4	2	4	4	4	5	1	3	1	4	4	2	2	3	2	3	1	3	2	4
Q27	4	4	3	1	2	3	5	3	3	4	1	2	4	2	1	2	4	4	3	4	4	2	4	5	4	3	3	5	1	2	4
Q28	4	4	4	4	4	4	3	2	3	4	2	1	4	4	3	3	3	4	5	4	2	1	4	4	2	3	2	4	2	5	3
Q29	2	2	1	2	2	3	1	2	4	2	4	5	1	2	4	2	3	2	1	1	1	2	3	2	2	1	2	1	2	1	4
Q30	4	4	5	5	2	4	5	4	4	4	2	2	4	3	2	3	4	4	4	5	5	2	4	4	4	4	2	5	3	4	3
Q31	3	4	4	5	2	4	5	4	5	4	2	3	4	2	3	3	4	4	4	5	5	2	3	4	4	4	1	5	4	4	3

Q32	4	4	3	4	4	2	4	4	3	5	1	1	4	1	4	1	3	4	2	4	4	1	5	3	4	1	1	4	1	4	2
Q33	5	4	4	4	4	4	5	4	5	5	2	3	4	4	4	3	3	4	2	4	4	3	5	5	5	4	1	4	3	4	3
Q34	4	3	3	1	4	2	5	4	4	5	2	2	4	2	2	2	3	4	4	4	4	1	4	4	4	2	1	5	1	1	4
Q35	3	2	1	1	1	1	2	2	3	2	1	1	4	1	1	1	3	4	3	4	1	1	3	2	2	2	1	2	1	1	2
Q36	2	2	2	1	1	2	1	1	2	2	1	1	4	1	1	1	2	2	2	2	1	1	1	2	1	1	1	4	1	2	3
Q37	4	4	2	1	2	2	4	3	3	2	1	1	4	3	2	2	3	4	4	2	4	4	4	4	3	2	1	5	1	5	5
Q38	5	3	5	1	3	4	5	3	3	4	4	3	4	5	5	5	4	4	5	4	5	4	5	5	5	2	1	5	3	2	4
Q39	5	2	5	4	3	4	4	2	3	4	5	3	5	5	5	4	4	4	5	3	5	3	5	5	5	1	1	5	3	5	4
Q40	5	3	4	4	2	3	4	3	3	4	4	3	5	3	4	5	3	4	4	4	5	4	5	5	5	1	3	5	3	4	4
Q41	4	4	4	5	4	4	5	3	4	5	4	2	5	5	4	4	4	4	4	5	5	4	5	4	5	3	3	5	4	5	4
Q42	5	4	4	1	4	4	5	4	4	5	5	4	5	5	4	4	4	4	5	4	5	5	5	4	5	4	4	5	4	1	4
Q43	5	4	4	2	4	4	4	4	4	5	4	2	5	4	4	4	4	4	5	4	4	4	5	3	5	4	4	4	3	1	3
Q44	4	4	4	5	4	4	4	4	4	5	2	3	4	4	2	5	3	4	4	5	4	2	4	4	5	5	4	5	3	5	4
Q45	4	4	4	5	4	4	4	4	5	5	3	3	4	2	4	5	3	4	3	5	4	1	3	3	5	2	2	5	3	5	4
Q46	4	4	4	4	4	4	4	4	4	5	2	3	4	3	4	5	3	4	2	4	4	2	3	3	5	2	4	5	1	5	4
Q47	3	2	2	5	2	2	1	3	3	2	4	3	2	5	5	3	3	2	3	2	4	5	3	3	2	4	4	2	3	4	4
Q48	4	3	5	1	4	4	5	5	4	3	2	3	4	3	1	4	4	4	4	4	2	2	4	4	4	2	2	3	3	2	3
Q49	4	3	3	1	2	4	4	3	3	3	2	3	2	2	1	3	3	4	3	4	2	1	3	3	3	2	1	4	3	1	3
Q50	5	4	4	1	3	5	4	3	4	4	3	4	4	2	1	3	3	4	4	4	2	1	4	4	4	1	1	5	3	4	3
Q51	4	4	4	3	3	4	4	3	4	4	2	3	4	2	2	2	3	4	3	4	4	2	5	4	4	2	4	5	1	4	3
Q52	4	4	4	1	4	4	4	4	4	4	2	3	4	3	2	1	3	4	3	4	4	2	5	5	4	2	3	4	1	4	2
Q53	1	2	1	4	2	2	1	4	3	2	5	1	1	5	4	5	3	1	2	2	2	1	1	1	1	3	2	2	4	2	3
Q54	1	2	2	5	2	4	1	5	3	2	4	4	4	2	5	3	3	1	1	2	1	2	2	2	1	5	4	1	2	1	3
Q55	2	2	2	2	3	2	1	4	3	2	4	4	1	2	4	3	2	1	3	3	1	4	2	2	3	4	3	1	3	4	3
Q56	2	4	4	5	2	4	5	2	4	4	1	1	2	2	1	1	4	2	4	3	5	2	5	4	1	2	2	3	1	5	3
Q57	3	3	4	4	3	4	4	3	5	2	2	4	4	4	4	4	4	3	4	4	2	2	4	4	4	4	5	3	3	4	4
Q58	4	3	4	4	4	1	5	4	5	2	4	5	5	4	4	4	4	3	4	4	4	5	3	4	2	2	4	3	4	1	
Q59	5	3	4	4	4	4	4	4	4	2	4	3	4	4	3	4	4	3	4	3	5	3	4	3	4	2	3	4	3	4	3
Q60	4	4	3	1	2	2	4	3	4	4	1	1	2	1	2	1	3	4	2	4	4	1	5	4	4	1	2	4	1	1	3
Q61	4	4	3	1	2	3	4	4	5	5	4	2	4	1	4	1	2	4	3	4	5	4	5	3	5	4	1	5	1	5	3
Q62	4	3	3	1	4	3	3	2	4	2	1	2	4	1	1	1	1	4	2	3	4	1	4	5	4	2	1	5	1	2	3
Q63	4			4	4	4		5	5	4	5		4	4	2	4			5	4	4	4	4	4	5	4	5	5	3	5	3
Q64	4			1	2	4		3	4	4	1		4	1	2	2			3	4	2	1	4	4	5	2	1	4	1	2	3
Q65	4			2	2	3		2	4	4	2		2	2	2	2			4	4	4	1	5	3	4	2	1	3	1	4	3

125

Q 66	4			4	4	3		2	5	4	2		2	3	2	3			4	4	4	1	5	3	4	2	2	5	3	4	3
Q 67	4			1	4	3		2	5	4	1		2	2	2	3			4	5	4	1	4	3	4	2	3	5	1	2	3
Q 68	5			4	4	4		2	3	4	1		4	2	2	1			3	4	4	2	5	4	4	2	2	4	3	4	3
Q 69	5			4	4	3		3	5	4	2		4	3	2	2			3	4	4	2	4	4	4	2	2	4	3	4	3
Q 70	4			1	4	4		3	5	4	1		4	1	2	1			4	4	2	1	4	4	4	2	2	4	1	4	3
Q 71	4			1	4	3		4	5	4	1		4	1	3	2			4	4	4	1	4	4	4	2	2	4	1	4	3
Q 72	4			1	4	4		4	4	5	1		4	1	2	1			4	4	5	1	5	4	4	1	2	4	1	5	3
Q 73	4			1	2	4		4	1	5	1		4	1	2	1			4	4	2	1	4	4	4	2	2	4	1	5	3
Q 74	4			2	2	4		4	5	5	5		4	4	3	4			4	5	5	4	4	5	4	3	2	4	3	5	3
Q 75	4			4	2	3		4	3	2	4		4	3	2	4			4	4	5	5	3	3	4	2	2	3	3	4	3
Q 76	2			2	3	3		2	1	1	2		2	2	3	1			2	1	1	1	3	2	2	3	4	2	2	1	3
Q 77	4			5	2	4		4	4	4	1		2	3	3	4			2	3	1	2	3	3	2	2	2	4	2	5	3
Q 78	5			5	4	4		3	4	5	2		4	4	5	4			4	4	4	4	4	2	4	5	5	4	3	5	3
Q 79	2			3	3	4		4	3	2	5		4	4	4	1			3	4	5	5	4	3	4	4	4	2	3	2	3
Q 80	4			5	2	4		4	4	4	4		4	5	4	4			4	4	5	4	3	4	4	3	2	4	3	5	3
Q 81	5			5	4	4		4	4	5	4		4	4	3	4			5	4	2	4	5	4	5	4	3	4	4	5	3
Q 82	2			2	3	4		3	3	2	4		3	3	3	2			2	2	5	5	2	3	4	2	4	2	3	2	3
Q 83	3			1	2	4		1	2	4	2		3	2	4	3			4	4	2	2	3	2	4	2	3	3	4	2	3
Q 84	4			5	2	4		4	4	4	4		4	5	2	4			4	2	4	4	3	2	4	3	2	3	4	5	3
Q 85	2			1	2	4		2	4	3	1		1	2	4	3			1	2	2	2	1	2	2	2	1	1	1	1	3
Q 86	1			1	1	4		2	2	2	1		1	1	2	3			1	1	1	1	1	2	1	2	2	1	1	1	5
Q 87	4			5	4	4		3	4	2	5		5	4	2	3			4	4	4	2	4	4	5	3	3	4	3	4	3
Q 88	4			5	3	3		4	4	4	2		4	2	3	3			3	4	2	1	3	3	5	4	3	4	3	2	3
Q 89	4			4	3	4		4	4	4	1		4	2	3	3			3	4	2	1	3	3	5	3	2	4	3	2	3
Q 90	4			4	4	5		3	4	4	2		4	3	2	3			3	4	1	2	4	4	4	4	2	4	3	4	3
Q 91	4			5	4	4		2	3	4	1		4	2	2	2			2	4	2	1	3	4	5	3	3	4	2	4	3
Q 92	2			4	2	4		3	2	3	5		4	3	4	4			2	2	5	5	2	2	1	2	3	1	3	1	3
Q 93	4			2	4	4		2	4	4	1		4	3	2	3			3	4	2	2	4	3	4	4	2	4	2	1	3
Q 94	2			4	2	4		2	4	3	5		2	4	4	4			2	2	5	5	3	3	2	2	4	2	3	4	3
Q 95	4			1	2	5		1	2	2	2		4	2	3	1			2	4	1	2	3	2	4	3	2	4	3	1	3
Q 96	4			2	4	4		2	3	4	2		4	3	2	3			4	4	1	2	4	4	5	3	4	5	3	1	3
Q 97	4			2	4	4		2	3	2	2		4	4	2	3			3	4	1	1	3	3	4	3	1	4	2	2	3
Q 98	4			5	4	4		2	4	4	4		4	4	4	5			4	4	4	5	5	4	5	3	1	4	3	5	3
Q 99	4			5	4	5		2	4	4	3		4	3	3	4			3	4	4	2	5	5	4	5	1	5	2	5	3

Q 10 0	2			2	2	4		4	1	2	4		2	2	2	3			2	2	4	3	3	2	3	3	3	1	4	2	3
Q 10 1	4			4	4	4		2	4	4	1		4	2	4	4			4	4	4	4	5	3	4	4	1	5	2	2	3
Q 10 2	2			2	4	4		4	2	2	4		2	3	3	3			3	2	4	2	3	2	2	3	4	2	3	4	3
Q 10 3	4			2	4	5		2	4	2	3		4	2	3	5			4	4	4	4	4	3	5	3	1	4	3	5	3
Q 10 4	4			4	4	4		2	2	4	2		4	3	4	2			2	4	3	2	5	4	4	3	2	4	2	5	3
Q 10 5	4			5	4	5		2	4	4	1		4	2	4	4			5	4	4	4	5	4	5	4	3	5	3	5	3
Q 10 6	4			5	4	4		2	4	4	2		4	4	4	4			3	4	4	3	4	5	5	4	3	5	3	5	3
Q 10 7	4			5	3	3		2	3	4	2		4	2	3	4			4	4	3	4	5	4	5	3	3	4	3	5	3
Q 10 8	5			1	1	4		2	1	2	5		2	4	3	1			5	3	4	3	3	1	1	5	1	5	5	1	3
Q 10 9	5			5	1	3		2	2	2	5		1	4	2	4			4	2	2	2	2	3	1	1	1	5	5	1	3
Q 11 0	3			2	3	5		2	1	2	4		1	1	1	2			3	2	2	1	1	1	1	1	1	3	1	1	3
Q 11 1	1			2	3	3		4	1	2	5		1	2	3	3			2	2	1	2	2	3	1	1	1	1	1	2	3
Q 11 2	3			5	3	4		3	1	2	5		1	2	2	4			3	2	1	4	2	2	1	2	3	1	1	2	3
Q 11 3	3			2	3	4		3	1	2	5		1	2	2	4			3	3	1	4	2	2	1	5	5	1	1	2	3
Q 11 4	1			5	2	3		3	1	2	5		1	4	4	4			2	2	1	2	1	1	1	3	1	1	4	4	3
Q 11 5	1			2	2	4		2	1	2	5		1	2	1	3			1	2	1	2	1	1	1	2	1	1	3	2	3
Q 11 6	1			2	1	5		4	1	2	5		1	2	1	1			2	2	1	4	1	1	1	4	1	1	3	1	3
Q 11 7	3			1	3	4		2	2	2	1		2	1	2	1			2	2	2	2	2	2	2	2	1	2	2	4	3
Q 11 8	2			1	1	4		1	3	2	1		4	1	1	1			3	4	1	2	1	2	1	2	1	2	1	2	3
Q 11 9	4			5	5	3		5	4	4	5		2	5	5	5			3	3	5	4	4	4	5	5	5	4	5	1	3
Q 12 0	3			5	1	5		1	3	3	1		4	2	1	1			3	4	4	4	3	2	4	5	2	2	1	1	3
Q 12 1	4			5	2	4		4	2	4	4		4	3	2	3			4	2	4	2	3	2	4	2	1	2	3	5	3

Appendix E: Demographic Plots

Q122 Which age group do you fall in?

Answered: 25   Skipped: 6
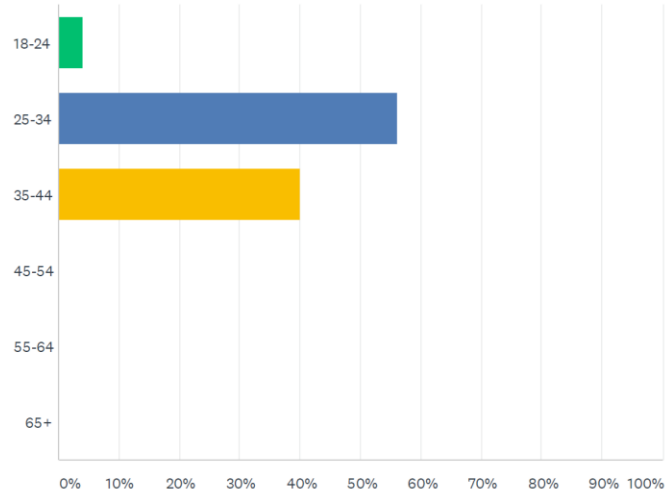
ANSWER CHOICES	RESPONSES	
18-24	4.00%	1
25-34	56.00%	14
35-44	40.00%	10
45-54	0.00%	0
55-64	0.00%	0
65+	0.00%	0
TOTAL		25

Q123 What is your gender?

Answered: 25   Skipped: 6
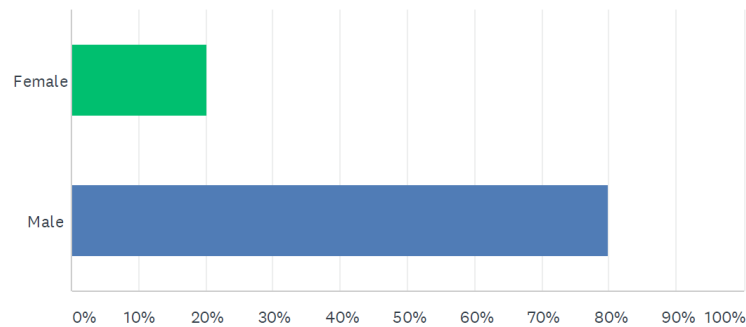
ANSWER CHOICES	RESPONSES	
Female	20.00%	5
Male	80.00%	20
TOTAL		25

Q124 What type of employee are you?

Answered: 25   Skipped: 6
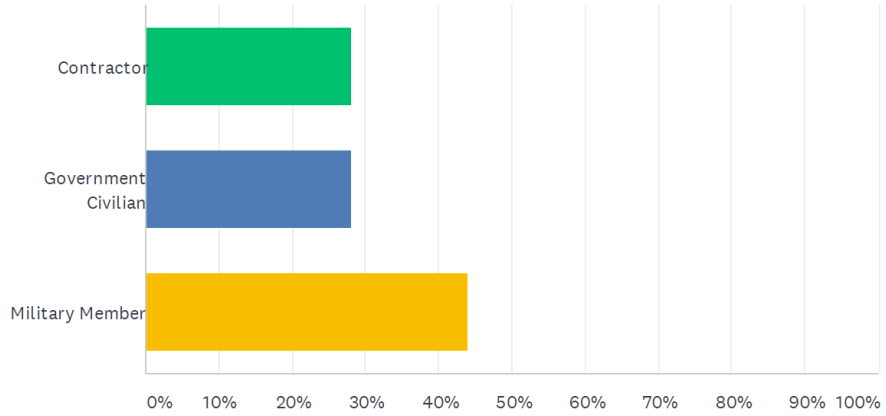
ANSWER CHOICES	RESPONSES	
Contractor	28.00%	7
Government Civilian	28.00%	7
Military Member	44.00%	11
TOTAL		25

Q125 How many years you worked at your current organization?

Answered: 25   Skipped: 6
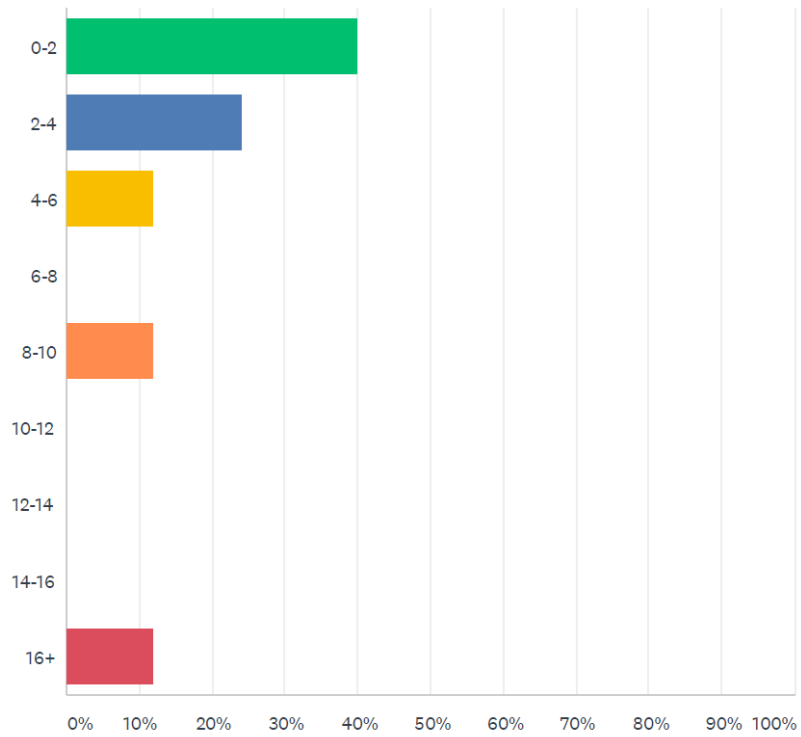
ANSWER CHOICES	RESPONSES	
0-2	40.00%	10
2-4	24.00%	6
4-6	12.00%	3
6-8	0.00%	0
8-10	12.00%	3
10-12	0.00%	0
12-14	0.00%	0
14-16	0.00%	0
16+	12.00%	3
TOTAL		25

Q126 How many promotions have you gotten at your current organization?

Answered: 25   Skipped: 6
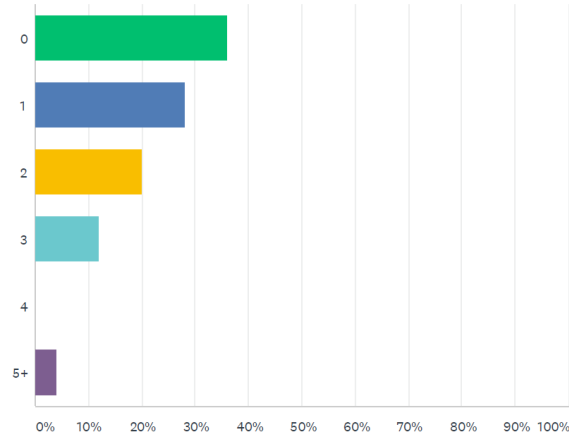
ANSWER CHOICES	RESPONSES	
0	36.00%	9
1	28.00%	7
2	20.00%	5
3	12.00%	3
4	0.00%	0
5+	4.00%	1
TOTAL		25

Q127 How many awards have you gotten at your current organization?

Answered: 25   Skipped: 6
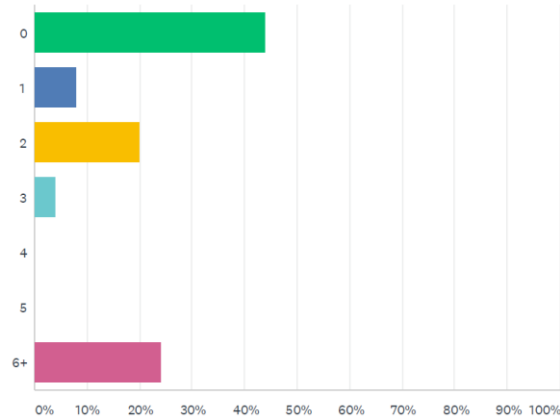
ANSWER CHOICES	RESPONSES	
0	44.00%	11
1	8.00%	2
2	20.00%	5
3	4.00%	1
4	0.00%	0
5	0.00%	0
6+	24.00%	6
TOTAL		25

131

Q128 What is your Marital Status?

Answered: 25   Skipped: 6
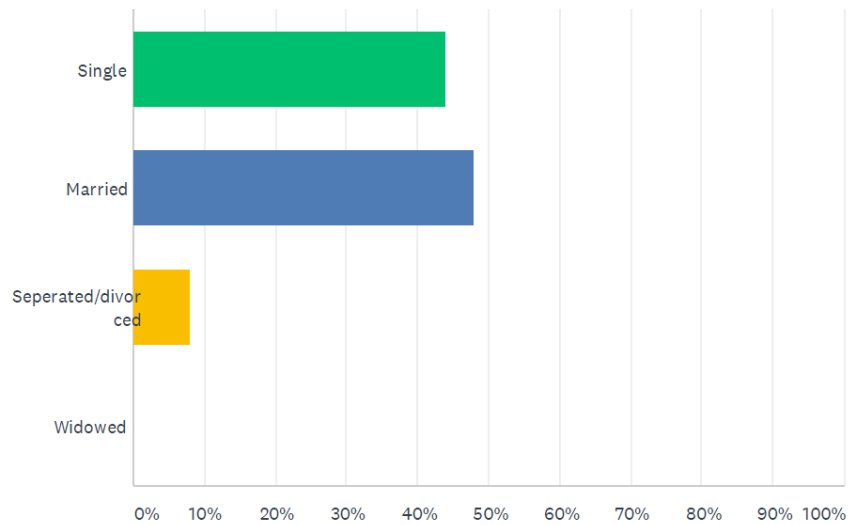
ANSWER CHOICES	RESPONSES	
Single	44.00%	11
Married	48.00%	12
Seperated/divorced	8.00%	2
Widowed	0.00%	0
TOTAL		25

Q129 Do you have children?

Answered: 25   Skipped: 6
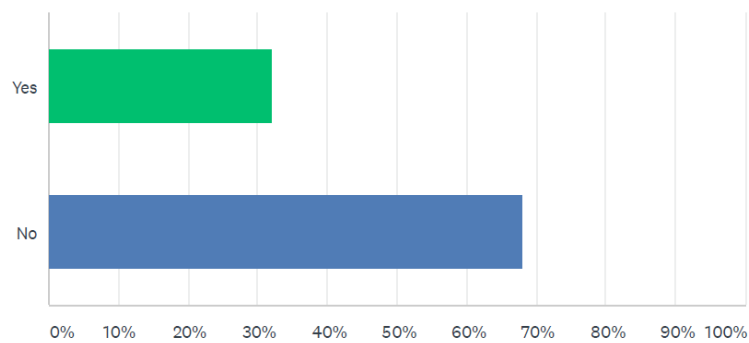
ANSWER CHOICES	RESPONSES	
Yes	32.00%	8
No	68.00%	17
TOTAL		25

Q130 If you have children, how many?
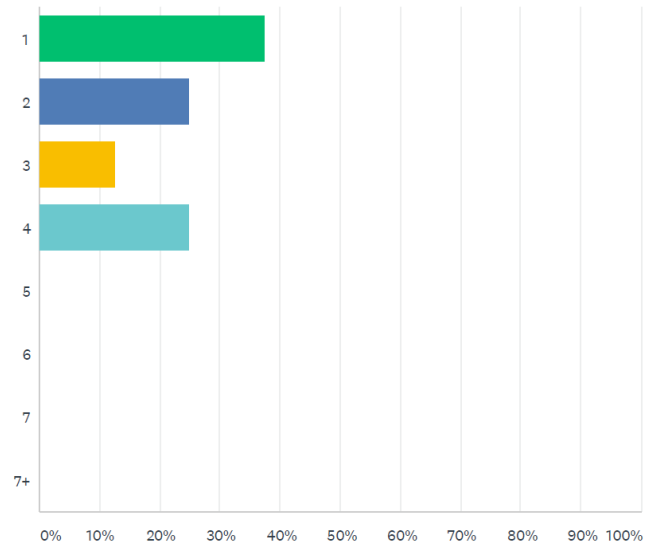
ANSWER CHOICES	RESPONSES	
1	37.50%	3
2	25.00%	2
3	12.50%	1
4	25.00%	2
5	0.00%	0
6	0.00%	0
7	0.00%	0
7+	0.00%	0
TOTAL		8

Q131 If you have children do any of them still live at home?

Answered: 7   Skipped: 24
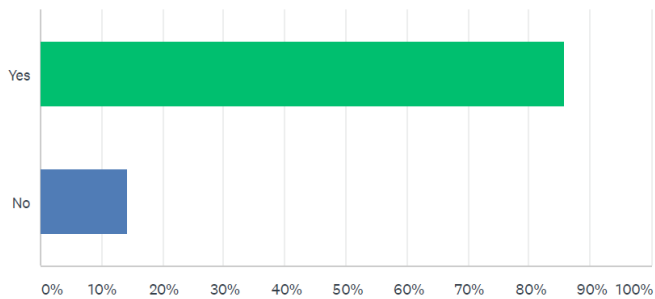
ANSWER CHOICES	RESPONSES	
Yes	85.71%	6
No	14.29%	1
TOTAL		7

133

Q132 What is your education level?

Answered: 25   Skipped: 6
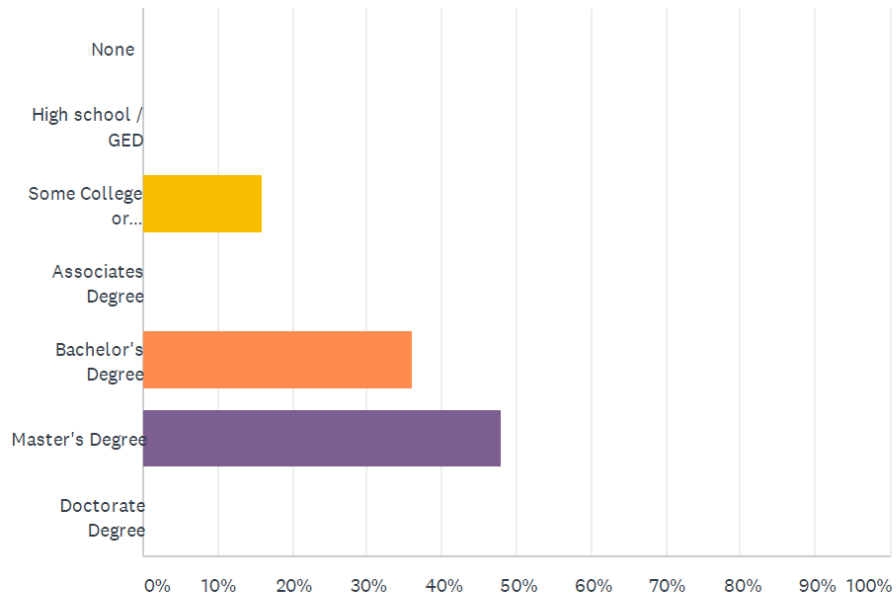
ANSWER CHOICES	RESPONSES	
None	0.00%	0
High school / GED	0.00%	0
Some College or Certifications	16.00%	4
Associates Degree	0.00%	0
Bachelor's Degree	36.00%	9
Master's Degree	48.00%	12
Doctorate Degree	0.00%	0
TOTAL		25

Q133 What is your bi-weekly take home pay after tax?

Answered: 25   Skipped: 6
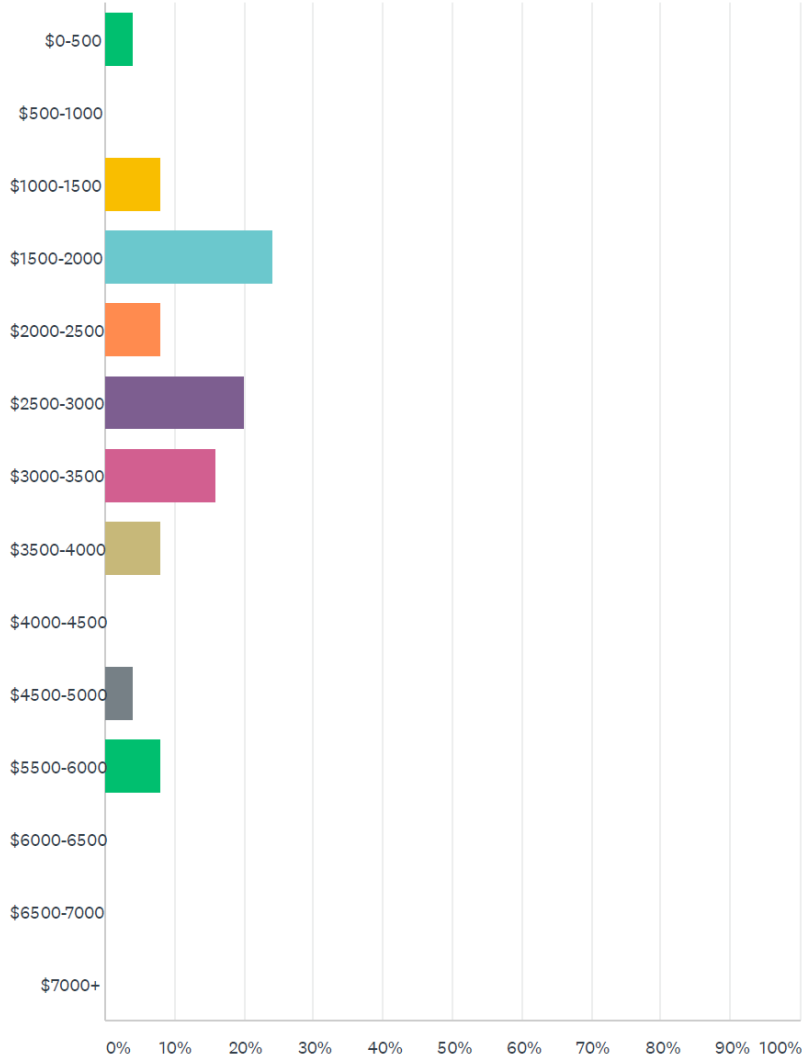
ANSWER CHOICES	RESPONSES	
$0-500	4.00%	1
$500-1000	0.00%	0
$1000-1500	8.00%	2
$1500-2000	24.00%	6
$2000-2500	8.00%	2
$2500-3000	20.00%	5
$3000-3500	16.00%	4
$3500-4000	8.00%	2
$4000-4500	0.00%	0
$4500-5000	4.00%	1
$5500-6000	8.00%	2
$6000-6500	0.00%	0
$6500-7000	0.00%	0
$7000+	0.00%	0
TOTAL		25

Q134 How religious are you? 0 being not at all and 100 being the Pope.
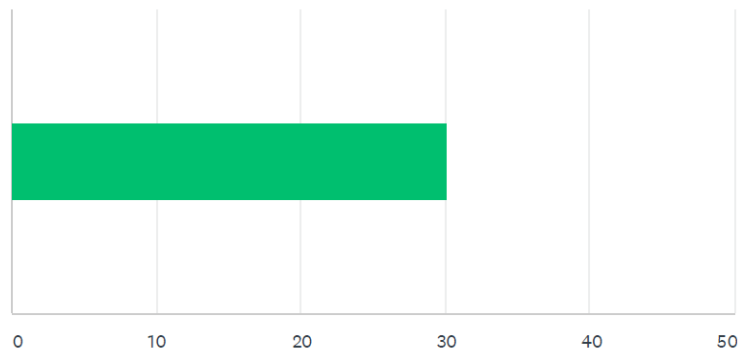
ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
	30	752	25
Total Respondents: 25			

Bibliography

Abdul, R. "Impact of Working Environment on Job Satisfaction." 2nd Global Conference on Business, Economics, Management and Tourism, Czech Republic, 2013.

Alzheimer's Association. "Facts and Figures" 2019. https://www.alz.org/alzheimers-dementia/facts-figures.

Alvesson, Mats. "Knowledge work: Ambiguity, image and identity." Human Relations, vol. 54, no. 7, 2001, pp. 863–886. https://journals.sagepub.com/doi/10.1177/0018726701547004.

Amabile, T. M., Hill, K. G., Hennessey, B. A., and Tighe, E. M. "The work preference inventory: Assessing intrinsic and extrinsic motivational orientations." Journal of Personality and Social Psychology, no. 66, pp. 950–967, 1994.

Andrews, F. M., and Withey, S. B. "Social indicators of well-being: Americans' perceptions of life quality." New York: Plenum Press, 1976.

Arvey, R. D., Bouchard, T. J., Segal, N. L., and Abraham, L. M. "Job satisfaction: Environmental and genetic components." Journal of Applied Psychology, no. 74, pp. 187–192, 1989.

Arvey, R. D., McCall, B. P., Bouchard, T. J., Taubman, P., and Cavanaugh, M. A. "Genetic influences on job satisfaction and work values." Personality and Individual Differences, no. 17, pp. 21–33, 1994.

Brinkley, I., Fauth, R., Mahdon, M., Theodoropoulou, S., "Is Knowledge Work Better For Us? Knowledge workers, good work and well being." A Knowledge Economy Programme, 2009. Reporhttps://www.researchgate.net/profile/Sotiria_Theodoropoulou2/publication/274324989_Is_Knowledge_Work_Better_for_Us_Knowledge_Workers_Good_Work_and_Well-Being/links/551bbc4a0cf2fdce8438a88d/Is-Knowledge-Work-Better-for-Us-Knowledge-Workers-Good-Work-and-Well-Being.pdf

Bolger, Niall, and Schilling, Elizabeth A. "Personality and the Problems of Everyday Life: The Role of Neuroticism in Exposure and Reactivity to Daily Stressors." Journal of Personality, vol. 59, 1991, pp. 355-386. https://pdfs.semanticscholar.org/53bc/062827e5934281c748d3861e8f8d424c2e96.pdf.

Bowling, N., Beehr, T., Wagner, S., and Libkuman, T., "Adaptation-Level Theory, Opponent Process Theory, and Dispositions: An integrated Approach to the Stability of Job Satisfaction." Journal of Applied Psychology, vol. 90, no. 6, pp. 1044-1053, 2005. https://www.researchgate.net/profile/Nathan_Bowling2/publication/7453300_Adaptation-Level_Theory_Opponent_Process_Theory_and_Dispositions_An_Integrated_Approach_to_the_Stability_of_Job_Satisfaction/links/54d6586f0cf24647580e5b5e/Adaptation-Level-Theory-Opponent-Process-Theory-and-Dispositions-An-Integrated-Approach-to-the-Stability-of-Job-Satisfaction.pdf

Burisch, M. "Approaches to personality inventory construction: A comparison of merits." Am. Psychol, no. 39, pp. 214–227, 1984.

Cambridge Dictionary. Cambridge University Press 2019. https://dictionary.cambridge. org/us/dictionary/english/job-satisfaction

Campbell, A., Converse, P. E., and Rodgers, W. L. "The quality of American life: Perceptions, evaluations, and satisfactions." New York: Russell Sage, 1967.

Carlson, D. S., Kacmar, K. M., and Williams, L. J. "Construction and initial validation of a multidimensional measure of work-family conflict." Journal of Vocational Behavior, no. 56, pp. 249–276, 2000.

Cohen, J. Statistical Power Analysis for the Behavioral Sciences; Academic Press: New York, NY, USA; London, UK, 1977.

Connolly, J. J., and Viswesvaran, C. "The role of affectivity in job satisfaction: A meta-analysis." Personality and Individual Differences, no. 29, pp. 265–281, 2000.

Costello, W. "A Qualitative Analysis of Faculty and Student Perceptions of Effective Online Class Communities Using Herzberg's Motivator-Hygiene Factors." Quarterly Review of Distance Education, vol. 15, pp. 15-23, 2014.

Cote, Stephane. "Affect and Performance in Organizational Settings." Current Directions in Psychological Science, vol. 8, 1999, pp. 65-68. https://journals.sagepub.com/doi/10.1111/1467-8721.00016.

Cropanzano, Russell, and Wright, Thomas A. "When a "Happy" Worker Is Really a "Productive" Worker: A Review and Further Refinement of the Happy-Productive Worker Thesis." Consulting Psychology Journal Practice and Research, vol. 53, no. 3, 2001, pp. 182-199. https://www.researchgate.net/publication/232457601_When_a_Happy_Worker_Is_Really_a_Productive_Worker_A_Review_and_Further_Refinement_of_the_Happy-Productive_Worker_Thesis.

Defense Equal Opportunity Management Institute. "DEOMI Organizational Climate Survey (DEOCS)." Department of Defense, August 2017. www.deocs.net/DocDownloads/Sample-DEOCS-Survey-Aug-2017-RMY.pdf.

Denton, A. "Why is productivity falling in 2013? The role of leadership in creating growth during the recession." Strategic Direction, vol. 29, pg. 3-5, 2013.

Diener, Ed. "The Validity of Life Satisfaction Measures." 2011.

Diener, Ed, et al. "Subjective Well-Being." Greater Good, 1998, pp. 63–73. greatergood.berkeley.edu/images/application_uploads/Diener-Subjective_Well-Being.pdf.

Drucker, Peter F. "The landmarks of Tomorrow." Heinemann, 1959. https://archive.org/deta ils/land marksoftomor00druc_0/page/n3.

Estrada, Carlos A. "Positive Affect Facilitates Integration of Information and Decreases Anchoring in Reasoning among Physicians." Organizational Behavior and Human Decision Processess, vol 72, no. 1, 1997, pp. 117-135. https://www.sciencedirect.com/science/article/pii/S07495 97897927345.

European Foundation for the Improvement of Living and Working Conditions. "Fourth European Working Conditions Survey." Luxembourg: Office for Official Publications of the European Communities, 2007.

Fassoulis, K., Alexopoulos, N, "The workplace as a factor of job satisfaction and productivity." Journal of Facilities Management no. 13, vol. 332 to 349, 2015.

Fisher, Cynthia, D. "Why do lay people believe that satisfaction and performance are correlated? Possible sources of a commonsense theory." Journal of Organizational Behavior, vol. 24, no. 6, 2003, pp. 753-777. https://onlinelibrary.wiley.com/doi/abs/10.1002/job.219.

Fredrickson, Barbara L. "What Good are Positive Emotions?" Review of General Psychology, vol. 2, no. 3, 1998, pp. 300–319. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3156001/.

Fredrickson, Barbara L. "The Role of Positive Emotions in Positive Psychology: The Broaden-and-Build Theory of Positive Emotions." American Psychologist, vol. 56, no. 3, 2001, pp. 218–226. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3122271/.

Gray-Grant, Daphne. Seven Ways to Write a Better Speech, Visual Thesaurus. 2009. https://www.visualthesaurus.com/cm/wc/seven-ways-to-write-a-better-speech/

Haarhaus, B. "Development and validation of a short questionnaire to assess global and facet-specific job satisfaction." Diagnostica, no. 62, pp. 61–73, 2016.

Hoerger, M. "Participant dropout as a function of survey length in internet-mediated university studies: Implications for study design and voluntary participation in psychological research." Cyberpsychol. Behav. Soc. Netw, no. 13, pp. 697–700, 2010.

Hom, Peter W., et al. "A Meta-Analytical Structural Equations Analysis of a Model of Employee Turnover." Journal of Applied Psychology, 1992, pp. 77, 890–909. https://www. scopus.com /record/display.uri?eid=2-s2.0-58149205072&origin=inward&txGid=96824872ab396260eef df2ded45fb3a5.

Ilies, R., & Judge, T. A. (2003). On the heritability of job satisfaction: The mediating role of personality. Journal of Applied Psychology, 88, 750–759.

Isen, Alice M. "An Influence of Positive Affect on Decision Making in Complex Situations: Theoretical Issues with Practical Implications." Journal of Consumer Psychology, vol. 11, no. 2, 2001, pp. 75-85. https://www.psychologie.uni-heidelberg.de/ae/allg/mitarb/ms/Isen_2001.pdf.

Jimenez, P. "Profile Analysis of Job Satisfaction." Manual Wiener Testsystem, Schuhfried. 2008.

Jiménez, P, and Kallus, K.W, "The Recovery-Stress-Questionnaire for Work. In RESTQ." The Recovery-Stress Questionnaire. Pearson Assessment & Information, 2016, pp. 335-353.

Kahn, William A. "Psychological Conditions of Personal Engagement and Disengagement at Work." Academy of Management Journal, vol. 33, no. 4, 1990, pp. 692–724. file:///C:/Users/kmczajk/AppData/Local/Temp/2/Psychologicalconditionsofpersonalengagementanddisengagement.pdf.

Kahneman, D., Krueger, B., Schadke, D., Schwarz, N., Stone, A. "Would You Be Happier If You Were Richer?" A Focusing Illusion. Science, vol. 312. no. 5782. pp. 1908–1910, 2006.

Kasser, T., and Ryan, R. M. "A dark side of the American dream: Correlates of financial success as a central life aspiration." Journal of Personality and Social Psychology, no. 65, pp. 410–422, 1993.

Kasser, T., and Ryan, R. M. "Further examining the American dream: Differential correlates of intrinsic and extrinsic goals." Personality and Social Psychology Bulletin, no. 22, pp. 280–287, 1996.

Kasser, T., Ryan, R. M., Couchman, C. E., and Sheldon, K. M. "Materialistic values: Their causes and consequences. In T. Kasser & A. D. Kanfer (Eds.), Psychology and consumer cultures: The struggle for a good life in a materialistic world." American Psychological Association, pp. 11–28, 2004.

Kets de Vries, Manfred F. R. "Creating Authentizotic Organizations: Well-Functioning Individuals in Vibrant Companies." Sage Journals, vol. 54, no. 1, 1 Jan. 2001, pp. 101–117. Human Relations, journals.sagepub.com/doi/abs/10.1177/0018726701541013?journalCode=huma.

Krishnamoorthy A, Kronenburg MA, Shetterly DR, Gaillard F. "Exploring the Relationship between Indoor Work Environment and Employee Perception of Health-Related Symptoms in an Office Environment. International Journal of Management Research and Reviews n. 06: pg. 44-58, (2016).

Krueger, A, Schkade, D. "The reliability of subjective well-being measures." Journal of Public Economics, no. 22, 2008, pp. 1833-1845.

Lencioni, Patrick. "The Truth about Employee Engagement: a Fable about Addressing the Three Root Causes of Job Misery." Jossey-Bass, Wiley, 2016. https://www.wiley.com/en-

us/The+Truth+About+Employee+Engagement%3A+A+Fable+About+Addressing+the+Three +Root+Causes+of+Job+Misery-p-9781119237983.

Lepold, Angelika, Tanzer, Norbert, Bregenzer, Anita, Jimenez, Paulino. "The Efficient Measurement of Job Satisfaction: Facet-Items versus Facet Scales." International Journal of Environmental Research and Public Health, no. 15, 2018. https://www.google.com/url?sa=t&r ct=j&q=&esrc=s&source=web&cd=11&ved=2ahUKEwiGhLiLoOHiAhWwTd8KHQhHA50 QFjAKegQIAxAC&url=https%3A%2F%2Fwww.mdpi.com%2F1660-4601%2F15%2F7 %2F1362%2Fpdf&usg=AOvVaw3dAPBq5O5manRUmG2vaMFb.

Ližbetinová, L, Hitka, M, Li, C, Caha, Z, and Stopka, O. "Motivation of Employees of Transport and Logistics Companies in the Czech Republic and in a Selected Region of the PRC." MATEC Web Conf. vol. 134, no. 32, 2017.

Locke, Edwin A. "The Nature and Causes of Job Satisfaction." Handbook of Industrial and Organizational Psychology, 1976, pp. 1297–1349. https://www.researchgate.net/publication /238742406_The_Nature_and_Causes_of_Job_Satisfaction.

Lorincová, S. Hitka, M. Cˇ ambál, M. Szabó, P. Javorcˇíková, J. "Motivation Factors Influencing Senior Managers in the Forestry and Wood-Processing Sector in Slovakia." BioResources, no. 11, pp. 10339–10348, 2016.

Lytell, Maria C. et al. "'Timely' Methods: Examining Turnover Rates in the U.S. Military." Military Psychology, 2009. https://www.researchgate.net/publication/233190684_Timely_M ethods_Examining_Turnover_Rates_in_the_US_Military.

Malka, A., and Chatman, J. A. "Intrinsic and extrinsic work orientations as moderators of the effect of annual income on subjective well-being: A longitudinal analysis." Personality and Social Psychology Bulletin, no. 29, pp. 737–746, 2003.

Maucione, Scott. "Air Force Puts Money where its Mouth is to Retain Airmen." Federal News Radio, 26 May 2017. federalnewsradio.com/air-force/2017/05/air-force-puts-money-where-its-mouth-is-to-retain-airmen/.

McGill, V. J. "The idea of happiness." New York: Praeger, 1967.

McGregor, Ian, et al. "Personal Projects, Happiness, and Meaning. On doing well and Being Yourself." Journal of Personality and Social Psychology, vol. 74, 1998, pp. 494-512. https://pdfs.semanticscholar.org/88af/62beb2ef314e6d50c750e6ff0a3551fb9f26.pdf.

McHoskey, J. W. "Machiavellianism, intrinsic versus extrinsic goals, and social interest: A self-determination theory analysis." Motivation and Emotion, no. 23, pp. 267–283, 1999.

Michalos, Alex C. "Multiple discrepancies theory (MDT)." Social Indicators Research, vol. 16, 1985, pp. 347-413. https://link.springer.com/article/10.1007/BF00333288.

Meyer, John P., et al. "Commitment in the Workplace: Theory, Research, and Application." Sage Knowledge, May 1997. http://sk.sagepub.com/books/commitment-in-the-workplace.

Meyer, John P., et al. "Affective, Continuance, and Normative Commitment to the Organization: A Meta-Analysis of Antecedents, Correlates, and Consequences." Journal of Vocational Behavior, vol. 61, no. 1, Aug. 2002, pp. 20–52. www.sciencedirect.com/science/article/abs/pii/S0001879101918421.

National Sleep Foundation. "National Sleep Foundation Recommends New Sleep Times." 2 Feb. 2015. https://www.sleepfoundation.org/press-release/national-sleep-foundation-recommends-new-sleep-times.

Nickerson, C., Schwartz, N., Diener, E., and Kahneman, D. "Zeroing in on the dark side of the American dream: A closer look at the negative consequences of the goal for financial success." Psychological Science, no. 14, pp. 531–536, 2003.

Niemiec, C. P., Ryan, R. M., and Deci, E. L. "The path taken: Consequences of attaining intrinsic and extrinsic aspirations in post-college life." 2006.

OECD. "OECD Guidelines on Measuring Subjective Well-being." OECD Publishing, 2013. https://doi.org/10.1787/9789264191655-en.

Office of the Deputy Assistant Secretary of Defense for Military Community and Family Policy. "2015 Demographics Profile of the Military Community." Department of Defense, 2015. download.militaryonesource.mil/12038/MOS/Reports/2015-Demographics-Report.pdf.

Omodei, Mary M., et al. "Need satisfaction and involvement in personal projects: Toward an integrative model of subjective well-being." Journal of Personality and Social Psychology, vol. 59, no. 4, 1990, pp. 762-769. https://app.dimensions.ai/details/publication/pub.1018854343.

Oswald, Andrew J., et al. "Happiness and Productivity." Journal of Labor Economics, vol. 33, no. 4, Oct. 2015, pp. 789–822. www.journals.uchicago.edu/doi/full/10.1086/681096.

Performance.gov, "Department of Defense." 2020. https://www.performance.gov/defense/

Polanyi, Michael. "The Tacit Dimension." London: Routledge and Kegan. 1967. https://books.google.com/books?hl=en&lr=&id=zfsb-eZHPy0C&oi=fnd&pg=PR6&dq=The+Tacit+Dimension+Polanyi&ots=HejzNEFvcL&sig=qA7C2g9byhkeTm6Kq6drfcYvVtQ#v=onepage&q=The%20Tacit%20Dimension%20Polanyi&f=false.

Rego, Armenio, and Miguel Pina e Cunha. "Authentizotic Climates and Employee Happiness: Pathways to Individual Performance?" Journal of Business Research, vol. 61, no. 7, July 2008. pp. 739–752., www.sciencedirect.com/science/article/abs/pii/S0148296307002585.

Rusbult, C. E., and Farrell, D. "A Longitudinal Test of the Investment Model: The impact on Job Satisfaction, Job Commitment, and Turnover of Variations in Rewards, Costs, Alternatives, and

Investments." Journal of Applied Psychology, vol. 68, no. 3, pp. 429-438, 1983. https://www.researchgate.net/profile/Jeevan_Jyoti/post/Any_Job_Satisfaction_questionnaire /attachment/59d633a979197b8077991568/AS:375715640954889@1466588997983/download /JS+JCOM+and+Turnover.pdf.

Ryan, R. M., and Deci, E. L. "Self-determination theory and the facilitation of intrinsic motivation, social development and well-being." American Psychologist, no. 55, pp. 68–78, 2000.

Salas-Vallina, Andres, et al. "Happiness at Work in Knowledge-Intensive Contexts: Opening the Research Agenda." European Research on Management and Business Economics, vol. 24, no. 3, Dec. 2018, pp. 149–159. reader.elsevier.com/reader/sd/pii/S2444883418300883 ?token=543561989EE34DFAA85E65614E75CF70466776519AC20F2C2695A311E02CA21 891AD416EA35644CF05189593E8F123D4.

Salomon, Richard. "AF Officials Launch 2018 Total Force Climate Survey." U.S. Air Force, Air Force Personnel Center Public Affairs, 29 August 2018. www.af.mil/News/Article-Display /Art icle/1616395/af-officials-launch-2018-total-force-climate-survey/.

Schaufeli, W.B., and Bakker, A.B. UWES Utrecht Work Engagement Scale: Manual; Occupational Health Psychology Unit: Utrecht, The Netherlands, 2003.

Sgroi, Daniel. "Happiness and Productivity: Understanding the Happy-Productive Worker." Social Market Foundation, October 2015. www.smf.co.uk/wp-content/uploads/2015/10/Social-Market-Foundation-Publication-Briefing-CAGE-4-Are-happy-workers-more-productive-281015.pdf.

Sheldon, Kennon M. "What makes for a good day? Competence and autonomy in the day and in the person." Personality and Social Psychology Bulletin, vol. 22, no. 12, December 1996, pp. 1270-1279. https://www.researchgate.net/publication/228079272_What_Makes_for_a_Good _Day _Competence_and_Autonomy_in_the_Day_and_in_the_Person.

Shobe, K. "Productivity Driven by Job Satisfaction, Physical Work Environment, Management Support and Job Autonomy." Business and Economics Journal, vol. 9, no. 2, 2018. https://www.omicsonline.org/open-access/productivity-driven-by-job-satisfaction-physical-work-environmentmanagement-support-and-job-autonomy-2151-6219-1000351.pdf

Spector, P. "Job satisfaction. Application, assessment, causes, and consequences." London: Sage, 1997.

Strack, Fritz, et al. "Subjective well-being: An interdisciplinary perspective." Pergamon Press, 1991. https://worlddatabaseofhappiness.eur.nl/hap_bib/freetexts/strack_f_1991.pdf.

Tellegen, Auke, et al. "Personality Similarity in Twins Reared Apart and Together." Journal of Personality and Social Psychology, vol. 54, no. 6, pp. 1031-1039, 1988. https://pdfs.semanticscholar.org/ccd0/1512616f004a4cc45553fbbeb740d16cf92a.pdf.

Thoresen, C. J., Kaplan, S. A., Barsky, A. P., Warren, C. R., and de Chermont, K. "The affective underpinnings of job perceptions and attitudes: A meta-analytic review and integration." Psychological Bulletin, no. 129, pp. 914–945, 2003.

Vansteenkiste, M., Duriez, B., Simons, J., and Soenens, B. "Materialistic values and well-being among business students: Further evidence for their detrimental effect." Journal of Applied Social Psychology, no. 36, pp, 2892–2908, 2006.

Vansteenkiste, M., Neyrinck, B., Niemiec, C., Soenens, B., De Witte, H., and Van den Broeck, A. "On the relations among work value orientations, psychological need satisfaction and job outcomes: a self-determination theory approach." Journal of Occupational and Organizational Psychology, no. 80, pp. 251-227, 2007. https://www.researchgate.net/profile/Anja_Van_den_B roeck/publication/251696260_On_the_Relations_among_Work_Value_Orientations_Psychol ogical_Need_Satisfaction_and_Job_Outcomes_A_Self-Determination_Theory_Approach/l inks/5a196c174585155c26a98268/On-the-Relations-among-Work-Value-Orientations-Psychological-Need-Satisfaction-and-Job-Outcomes-A-Self-Determination-Theory-Appr oach.pdf.

Waterman, Alan S. "Two conceptions of happiness: Contrasts of personal expressiveness (eudaemonia) and hedonic enjoyment." Journal of Personality and Social Psychology, vol. 64, no. 4, 1993, pp. 678–691. https://www.researchgate.net/publication/232515799_Two_Conc eptions_of_Happiness_Contrasts_of_Personal_Expressiveness_Eudaimonia_and_Hedonic_En joyment.

Waterman, Alan S., et al. "The Implications of Two Conceptions of Happiness (hedonic enjoyment and eudaimonia) for the Understanding of Intrinsic Motivation." Journal of Happiness Studies, vol. 9, no. 1, 2008, pp. 41–79. https://www.researchgate.net/publication/23545618_The_ Implications_of_Two_Conceptions_of_Happiness_Hedonic_Enjoyment_and_Eudaimonia_fo r_the_Understanding_of_Intrinsic_Motivation.

Watson, D., and Clark, L. A. "Negative affectivity: The disposition to experience aversive emotional states." Psychological Bulletin, no. 96, pp. 465–490, 1984.

Watson, D., Clark, L. A., and Tellegen, A. "Development and validation of brief measures of positive and negative affect: The PANAS scales." Journal of Personality and Social Psychology, no. 54, pp. 1063–1070, 1988.

Watson, D., Pennebaker, J. W., and Folger, R. "Beyond negative affectivity: Measuring stress and satisfaction in the workplace." Journal of Organizational Behavior Management, no. 8, pp. 141–157, 1986.

Watts, G. A. "Work values, attitudes, and motivations of women employed in administrative support occupations." Journal of Career Development, no. 19, pp, 49–63, 1992.

Weiss, Howard M., and Cropanzano, Russell. "Affective events theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work." Research in

Organizational Behavior, vol. 18, 1996, pp. 1–74. http://web.mit.edu/curhan/www/docs/ Articles/15341_ Readings/Affect/AffectiveEventsTheory_WeissCropanzano.pdf.

Wells, Morrison, C., and Conway, Martin A. "Adult Recollections of Childhood Memories: What details can be recalled?" The Quarterly Journal of Experimental Psychology, vol. 67, 2014, pp. 1249-1261. https://journals.sagepub.com/doi/abs/10.1080/17470218.2013.856451.

Wright, Thomas A., and Cropanzano, Russell. "The Role of Psychological Well-Being in Job Performance: A Fresh Look at an Age-Old Quest." Organizational Dynamics, vol. 33, no. 4, 2004, pp. 338-351. https://www.researchgate.net/publication/232586470_The_Role_of_Ps ychological_Well-Being_in_Job_Performance_A_Fresh_Look_at_an_Age-Old_Quest.

Wright, Thomas A. "To Be or Not to Be Happy: The Role of Employee Well-Being." Academy of Management Perspectives, vol. 20, no. 3, 2006. https://journals.aom.org/doi/pdf /10.5465/amp. 2006.21903486.

Zelenski, John M., et al. "The Happy-Productive Worker Thesis Revisited." Journal of Happiness Studies, 2013. https://www.researchgate.net/publication/241224844_The_HappyProductive_ Worker_Thesis_Revisited.

REPORT DOCUMENTATION PAGE		*Form Approved* OMB No. 074-0188

The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of the collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to an penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.
PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.

1. REPORT DATE *(DD-MM-YYYY)* 18-09-2020	2. REPORT TYPE Master's Thesis	3. DATES COVERED *(From – To)* January 2018 – September 2020

TITLE AND SUBTITLE Title of Level of Education and Workplace Satisfaction	5a. CONTRACT NUMBER
	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S) Czajka, Kevin M., Captain, USAF	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAMES(S) AND ADDRESS(S) Air Force Institute of Technology Graduate School of Engineering and Management (AFIT/ENY) 2950 Hobson Way, Building 640 WPAFB OH 45433-8865	8. PERFORMING ORGANIZATION REPORT NUMBER AFIT-ENY-MS-20-S-095
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) Intentionally Left Blank	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
   DISTRUBTION STATEMENT A. APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.

13. SUPPLEMENTARY NOTES
This material is declared a work of the U.S. Government and is not subject to copyright protection in the United States.

14. ABSTRACT
The purpose of this study is to determine if education level and expertise, among other differentiable characteristics, have an impact on an employee's job satisfaction specifically in roles supporting the Department of Defense (DoD). This study focuses on civilians, military, and contractor respondents. This information can then be used to properly place and employ workers in the DoD. The secondary goal of this study is to develop a survey and method of surveying which will close the gap where there is currently no DoD wide survey that is standardized across all branches and applied to employees, military members and contractors. It is up to management to properly align an employee with tasks that will make them happy. The desire for this research effort is to help management focus on the right individual characteristics in order to properly place individuals in positions to keep them happy. Variables such as gender and other demographics will also help further refine the results. The study suffered from a small sample size, but did yield interesting results. There were more satisfied employees and among them the key characteristic was their perception of the proper alignment between their abilities and their job, as well as their freedom to be creative. The demographics showed the more dissatisfied employees reported higher education levels.

15. SUBJECT TERMS
   Happiness, job satisfaction, workplace

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON Dr. J. J. Elshaw AFIT/ENY
a. REPORT	b. ABSTRACT	c. THIS PAGE	UU	145	19b. TELEPHONE NUMBER *(Include area code)* (864)607-8491 (NOT DSN) kczajka@g.clemson.edu
U	U	U			

Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std. Z39-18