Successful midlife aging in a changing work environment: A model of midlife adaptation

Autumn Nichole Carroll

Follow this and additional works at: https://scholarworks.lib.csusb.edu/etd-project

Part of the Industrial and Organizational Psychology Commons

Recommended Citation
https://scholarworks.lib.csusb.edu/etd-project/2733
SUCCESSFUL MIDLIFE AGING IN A CHANGING WORK ENVIRONMENT: A MODEL OF MIDLIFE ADAPTATION

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
in
Psychology:
Industrial/Organizational

by
Autumn Nichole Carroll
March 2005
ABSTRACT

Given that midlife workers make up an increasingly larger portion of the workforce today, it is imperative that researchers investigate how current changes in the work environment are impacting individuals in their midlives. Thus, the paper’s focus was on a systematic examination of the work adaptation process of midlife workers. The goal of the paper, was to construct a model of midlife work adaptation that depicts a basic framework outlining coping processes by which midlife adults use to approach changes identified in the current midlife context that challenge them cognitively, physically, and emotionally. The model’s fit was tested using archival data from the Midlife in the United States (MIDUS) survey. The first conclusion of the study was that the absence of stress does predict successful midlife aging in a changing work environment. The second conclusion was that comparative resources increase the likelihood of a context absent of stressful effects present in the current context of midlife. Lastly, it was concluded that comparative resources predicts successful midlife aging in a changing work environment. The study’s findings indicate that comparative resources in midlife, both external and internal, do play a very significant role in adaptation.
and successful aging in a changing work environment. This model provides clarification and direction needed to establish the extent these workers will be able to successfully adapt to the negative outcomes and the consequences the changes may produce, and thus successfully age in the changing work environment, in contrast to leaving it.
ACKNOWLEDGMENTS

I would like to recognize The John D. and Catherine T. MacArthur Foundation Network on Successful Midlife Development for creating and conducting The National Survey of Midlife Development in the U.S. (MIDUS). In addition, I would like to thank them for providing and allowing other researchers to test and discover their own questions through their data set.
DEDICATION

To all my family and friends, you are not only the best support system a person could have, but you have been the inspiration behind my success; There are not enough words in the world to express how much I appreciate your patience, support, and understanding. Thank you for helping me endure the long, bumpy, and curvy road to fulfilling my dreams.
TABLE OF CONTENTS

ABSTRACT ................................................................. iii
ACKNOWLEDGMENTS .................................................. v
LIST OF TABLES ......................................................... viii
LIST OF FIGURES ....................................................... ix
CHAPTER ONE: INTRODUCTION

The Prevalence of Change ............................................. 1
Workforce Demographics ............................................. 3
Work Adaptation in Midlife .......................................... 5
Midlife in Context ..................................................... 6
Personal Life Domain .................................................. 7
Work Life Domain ..................................................... 13
Negative Outcomes and Consequences .............................. 20
Stress ........................................................................ 21
The Conceptual Models ................................................. 27
Underlying Assumptions of Coping .................................. 30
Absence of Stress ....................................................... 31
Comparative Resources ............................................... 33
Adaptation with Comparative Resources ......................... 36
Successful Midlife Aging .............................................. 37
Wisdom ........................................................................ 39
Emotional Intelligence .................................................. 40
Adaptive Competence .................................................. 41
Summary ........................................................................ 43
CHAPTER TWO: METHODS

Research Design and Assumptions .................. 45
Participants ........................................ 45
Procedure ........................................ 46
Measures .......................................... 47
Model Specification ............................... 48
Data Screening Prior to Analyses .............. 49

CHAPTER THREE: RESULTS

Presentation of the Findings ....................... 63
The Confirmatory Factor Analysis Model ....... 63
The Structural Equation Model ................... 71

CHAPTER FOUR: DISCUSSION

Discussion of Findings ............................ 77
Implications of Findings .......................... 87
Methodological Issues and Limitations ......... 90
Future Research and Recommendations ........ 97

APPENDIX A: SUMMARY OF HYPOTHESES .......... 102
APPENDIX B: SCALE CREATION ..................... 104
APPENDIX C: INDIVIDUAL ITEMS FOR EACH SCALE .... 106
APPENDIX D: HYPOTHESIZED STRUCTURAL EQUATION
MODEL .............................................. 113
REFERENCES ........................................ 115
| Table 1. Summary of Complete Cases for Each Scale from the Missing Value Analysis | 51 |
| Table 2. Present and Missing Means for Scales Found to Have Systematically Missing Data Pattern | 51 |
| Table 3. Summary of Comparison Means and Standard Deviations for Estimated Data | 53 |
| Table 4. Summary of Demographics for All Samples | 54 |
| Table 5. Summary of the Paths Added Based on the Multivariate Lagrange Multiplier Test and Chi-Squared Difference Tests Using a Satorra-Bentler Adjustment | 68 |
LIST OF FIGURES

Figure 1. The Confirmatory Factor Analysis Model .... 29

Figure 2. The Structural Equation Model of Midlife Adaptation ........................................ 30

Figure 3. The Hypothesized Confirmatory Factor Analysis Model ........................................ 49

Figure 4. The Final Confirmatory Factor Analysis Model with Modifications in Standardized Form and Significance Indicated (*) ........ 69

Figure 5. A Cross Validation of the Final Confirmatory Factor Analysis Model Using A New Sample ........................................ 71

Figure 6. Hypothesized Structural Equation Model of Midlife Adaptation ...................... 73

Figure 7. The Final Structural Equation Model of Midlife Adaptation with Significant (*) Coefficients Presented in Standardized Form ........................................ 76
CHAPTER ONE
INTRODUCTION

The Prevalence of Change

We live in a world that is constantly changing and evolving. As the world changes, so must everything around it change, for the simple fact that it has to adapt in order to survive. The evidence of change is found everywhere; however, some of the most visible changes have been found in the workplace (Albrecht, 2001; Challenger, 2001; Haveman, 1992; Pulakos, Arad, Donovan, & Plamondon, 2000; Yeatts, Folts, & Knapp, 2000). During the last quarter of the twentieth century, we saw traditional workplaces being rapidly replaced with newly evolved workplaces (Albrecht, 2001); and more recently in the 21st century, we are seeing even more rapidly evolving workplaces due to the swift progression of technology, stringent governmental and environmental restrictions and shrinking budgets, cultural norms, and changes in the way goods and services are being produced (Challenger, 2001; Greengard, 1998; Osterman, 1995; Rifkin, 1996).

The combination of these technological, governmental, environmental, social and economic forces has brought about rapid changes to the workplace (Pulakos et al.,
2000; Yeatts et al., 2000). It is these changes in the workplace that have caused a considerable redefinition of work and created a new set of rules and standards for how work is done in the American workplace (Challenger, 2001; Ilgen, 1994). As a result, demands are placed on the worker to constantly adapt to these changes or leave the workforce.

Although adaptation is not a new demand placed on workers in the workplace, it is the extent to which workers are able to successfully adapt to these rapidly evolving workplaces that has a significant effect on the organizations they work for, global competitiveness, economic productivity and growth, government programs, social security, and on the workers themselves. Thus, the present study's focus will include a systematic examination of the work adaptation process, which consists of identifying the demographics of the workforce that is being affected by the changes occurring, what the changes are, and how the changes are affecting the workers of today. Once key elements of the current work adaptation context are identified, they will then be used to construct a model of adaptation that depicts a basic framework outlining coping processes by which midlife adults may use to approach change; which will provide
clarification and direction needed to establish the extent these workers will be able to successfully adapt to the negative outcomes and the consequences the changes may produce, and thus successfully age in the changing work environment, in contrast to leaving it.

Workforce Demographics

Conceptualizing the work adaptation process begins by recognizing the composition of the workforce that is being required to adapt. There are several workforce demographic changes that are simultaneously occurring with workplace changes (Albrecht, 2001; Challenger, 2001; Yeatts et al., 2000). Specifically, there are two significant shifts in the workforce demographics that are relevant to this examination of work adaptation. The first shift we have witnessed is the persistent slowing in the growth of the labor force of younger skilled workers over the last decade (GAO, 2001). From the 1950s to the 1990s, the growth of the labor force of younger skilled workers was an average annual rate of 1.9 percent. From the 1990s to 2000, the growth was an annual growth rate of 1.0 percent. It is projected that from 2000 to 2025 the growth will be a weak annual rate of only 0.3 percent (GAO, 2001). As a result, the demand for skilled labor will increase beyond the growth of the young skilled workers entering the
workforce; consequently, forcing the labor market to become even tighter in the future than it is now (Challenger, 2001).

The second shift we have witnessed is a large percentage of individuals in midlife, namely the largest birth cohort in U.S. history (those born between 1946-1964), the baby boomers. Midlife has been most commonly described as beginning at 40 and ending around 60 or 65 when old age is believed to begin (Lachman & Bertrand, 2001; Lachman & James, 1997; Lachman, Lewkowicz, Marcus, & Peng, 1994). "This group of baby boomers will be the largest ever in United States history to enter into and live through midlife to old age” (Merrill & Verbrugge, 1999, p. 94). Labor participation for male baby boomers, those between 40 and 65 years of age, exceeds 90 percent and for female baby boomers it is 75 percent (AARP, 1999). It has been predicted that by the year 2005, half of the U.S. workforce will be 40 or older and one quarter will be 50 or older (Kaplan-Leiserson & Fishman, 2001).

As a result of these shifts in the workforce demographics, workers in their midlives comprise the majority of the workforce today, and will ultimately comprise the majority of the workforce for the foreseeable
future; and therefore, are the majority of workers which these changes in the workplaces are affecting.

Work Adaptation in Midlife

If individuals in their midlives characterize the workforce of today and are the older workers of tomorrow, it is imperative that researchers investigate and understand the work adaptation process of midlife workers specifically. For the reason that midlife workers face different adaptation challenges and have unique needs, work values, and work experiences, in contrast to other age groups (Yeatts et al., 2000). Lachman and Bertrand (2001) state that, “Middle age is a long period with a great deal going on in many different realms” (p. xx, introduction). In addition, Sterns and Huyck (2001) state that, “Midlife workers lead complex lives; what happens at work often affects other aspects of their lives” (p. 479). Moen and Wethington (1999) agree and add to this statement by concluding that work and aspects of an individual’s life in midlife are interlocking and interdependent trajectories; therefore, work often affects other aspects of an individual’s life, but also, an individual’s personal life often effects work.
Yet, a review of past literature revealed that most of the existing research in the area of work adaptation focuses on workers in general or older workers (65+) and has neglected to focus on this unique period in life with its unique challenges (Abraham & Hansson, 1995; Almeida, McDonald, Daniel, & Grzywacz, 2002; Avolio & Sosik, 1999; Bailey & Hansson, 1995; Baltes & Baltes, 1990; Forteza & Prieto, 1994; Hansson, DeKoekkoej, Neece, & Patterson, 1997; Pulakos et al., 2000; Salthouse & Maurer, 1996; Shultz & Morton, 2000; Staudinger & Bluck, 2001; Sterns & Huyck, 2001; Ward & Spitze, 1998; Wiese, Freund, & Baltes, 2000; Yeatts et al., 2000; Zal, 1992). Therefore, in order to truly understand the work adaptation process of midlife workers, this study will investigate the work adaptation process of midlife workers, specifically.

Midlife in Context

According to a contextual view, "individuals exist in a changing world and in life contexts that create opportunities for and limitations to individual developmental pathways" (Smith & Baltes, 1999, p. 51). A contextual analysis of midlife (the period of life between 40 and 65 years of age) calls for an investigation of important changes in personal and work life occurring that are different from young adulthood and old age (Lachman et
al., 1994). Because it is these distinguishing changes in both life domains that are going to present a challenge to the midlife individual and may create a context for negative outcomes or consequences; it is these negative outcomes and consequences that an individual in midlife needs to be able to adjust to and ultimately how successfully they adjust to them will determine how they age and develop in the work environment. Logically, the next step to conceptualizing the work adaptation process of midlife workers calls for a contextual analysis that identifies all changing aspects of midlife workers personal lives, as well as aspects of the work lives that are challenging and may produce a context for negative outcomes or consequences.

**Personal Life Domain**

The personal life domain taps into the significant themes governing an individual’s development in midlife. It is believed that development in midlife is governed more by social, cultural, and environmental challenges and responsibilities, counter to the other periods of life where development is governed more by biological structures (Heckhausen, 2001; Lachman, 2001; Lachman & James, 1997). In a review of past literature in the area of midlife development, five challenges unique to midlife
that may produce a context for negative outcomes or consequences where identified: changing social relationships, evolving identity, sociocultural influences, awareness of finitude of lifetime, and common biological life events (Heckhausen, 2001; Lachman, 2001; Lachman & James, 1997).

**Changing Social Relationships.** Antonucci, Akiyama, and Merline (2001) suggest that there have been many revolutionary and historical changes that have occurred in the midlife arena; however, the most recognizable changes are in the social relationships of men and women in midlife. Antonucci et al. (2001) state that, "Social relations at midlife have probably never been more dynamic or more complicated" (p. 571). Men and women in midlife are challenged by the higher number of roles they occupy and the more daily hassles they are exposed to than in any other period of life.

Providing emotional, physical, and financial support for children or grandchildren, spouses, aging parents and others (relatives, siblings, and friends) is often an unexpected, but a common and increasing obligation faced by both men and women in midlife that result in multiple demands on time, emotions, energy, and resources (Almeida, McDonald, & Grzywacz, 2002; Barnett & Hyde, 2001; Moen &
Wethington, 1999; Ward & Spitze, 1998). In addition, individuals in midlife are being exposed to more daily hassles than people in any other points in their lives, as well as more than any other group historically (Antonucci et al., 2001). Daily hassles have been defined as situational and fundamental influences that affect the experiences of daily life (Antonucci et al., 2001). For example, they can simply include the problems and distress in the lives of family members, other relatives, spouses, and friends that the individuals are subjected to and feel obligated to help with, such as, an adult child going through a divorce, or a teenage child having problems at school, family members not getting along, seeing parents age and lose their independence (Ward & Spitze, 1998).

**Evolving Identity.** Middle adulthood is also a period in life where there is an increase in multiple identity age-related experiences that challenge an individual’s sense of self. For example, taking on a new role or the detection of physical aging can cause individuals in midlife to challenge how they see themselves. Whitbourne (1996) points out that “the aging process can present a particular challenge to the maintenance of a stable sense of identity over time” (p. 87). Identity is defined as, “the individuals self-appraisal of a variety of attributes
along the dimensions of physical and cognitive abilities, personal traits, and motives, and the multiplicity of social roles including worker, family member, and community citizen" (Whitbourne & Connolly, 1999, p. 28). According to this definition, identity is viewed as flexible and susceptible to changes across the life course and continuously evolving through life. A challenge for many individuals in midlife is to allow one's identity to freely evolve with the age-related changes occurring in this stage of their life.

Sociocultural Influences. Aging in western society is more negative than positive compared to other cultures, which presents a challenge to individuals who are entering and progressing through middle age (Jere, 1994). Denmark (2002) has identified various myths and stereotypes connected to the aging process, and has concluded that society continues to hold on to a strong belief that aging is more of a disease rather than a normal process with benefits. This negative view of aging can be credited at least in part to the media, which continues to perpetuate and reinforce these stereotypical views or myths of aging (Denmark, 2002; Jere, 1994). For example, advertisements bombard individuals with the message that at the first signs of physical aging, they must use hair dye or hair
replacement products, makeup, diets, new car, up-to-date or trendy clothes, or go as far as cosmetic surgery to maintain their youth and attractiveness. Overall, these messages are telling individuals to cover up all physical signs of aging because youth is beautiful and advancing age is unattractive (Denmark, 2002).

Therefore, sociocultural influences are a challenge during the years of middle adulthood and permeate every aspect of health in midlife. As midlife individuals look ahead to their own health in the future, they may worry about becoming the image of the stereotypical elder Western society has created (Jere, 1994). As a result, they heavily focus on maintaining their youth, which causes them to deny their physical aging, which comes at the cost of engaging in optimal levels of preventive or compensatory activities (Denmark, 2000; U.S. News & World Report, 2000; Whitbourne, 2001).

Finitude of Lifetime. A key characteristic that defines the challenge of midlife is the growing salience of finitude or in other words, an acute rise in awareness of time left in ones life (Heckhausen, 2001; Lashbrook, 1996; Settersten & Hagestad, 1996; Staudinger & Bluck, 2001). In midlife, individuals' sense of "time" and "time running out" plays a role in development not seen in
earlier life stages (Staudinger & Bluck, 2001). Midlife is a time when individuals start to evaluate their life by the time they have left to live. Control theory maintains that the perception of time running out is the fundamental factor directing behavior and emotions in midlife (Heckhausen, 2001; Lashbrook, 1996; Settersten & Hagestad, 1996). The amount of time we believe we have influences how we go about evaluating our lives; ultimately, this evaluation influences our sense of success over a lifetime.

Common Expected Life Events. Other challenges in midlife stem from expected and commonly shared life events. The most expected life event shared by individuals in midlife is death of a parent. It is common for individuals to experience the death of a parent in midlife; research shows that many enter midlife with parents alive and exit with both parents deceased. Aldwin and Levenson (2001) show that in the United States, half of adults in midlife have lost both of their parents by their mid 50s, and by their early 60s, 75% of individuals have lost both parents.

Another expected life event that takes place in midlife is spousal bereavement. Widowhood is fairly common in midlife, especially for women. Today, by the time
midlife women reach 65 years of age, one third have lost their husband. For men, a third lose their wives by the time they are 75 (Atchley, 1997). Lastly, changes in a women’s biological functioning, specifically their reproduction system, are also a common expected life event shared by all women in midlife. Menopause is an event that is certain to occur in midlife for woman. All of these common and shared expected life events impact midlife individuals’ ability to adapt successfully in midlife.

Work Life Domain

As mentioned earlier in the paper, we are witnessing rapid changes in the world of work, namely traditional workplaces being replaced with newly evolved workplaces. It is these changes to work that are creating specific challenges to midlife workers in the work domain and may expose them to a context of negative outcomes and consequences. In other words, the key to understanding midlife challenges in the work domain is to identify what has changed. For example, younger workers are entering the workforce for the first time during these changing times and thus are not as affected by change because these are the only work environments they have been exposed to. In contrast, midlife workers have participated in other work environments, specifically more traditional work
environments, characterized by lifetime employment with the same employer, organizational-driven careers, less reliance on technology, more demand for physical labor, worker specialization, five eight hour day work week, jobs with set of specific individual duties and responsibilities, and less emphasis on highly skilled and educated workers. Thus, these changes and a considerable redefinition of work, with a whole new set of rules and standards for how work is done in the American workplace, requiring a great deal of adaptation on the part of midlife workers.

A large number of midlife workers in the workforce today are finding the new work environments, which requires a higher demand for more flexible and adaptive work environments, to be quite different and challenging from the traditional work environments that they have been exposed to in the past and are accustomed to and comfortable with (Fossum, Arvey, Paradise, & Robbins, 1986). Thus, what is occurring can be described as trying to fit the square peg of traditional workers into the round hole of new workplaces. The new workplaces of today are quite different from more traditional workplaces of the past. Therefore, the following are several major challenges midlife workers today face in their work life
that younger workers would not at the same extent, such as changing job characteristics, changing job requirements, changing work climate, and changing worker characteristics. It is these major challenges that may create a context for negative outcomes and consequences.

**Changing Job Characteristics.** The current workplace can be characterized by enriched and enlarged job characteristics. For example, enlarged being that on average, jobs today are increasingly encompassing broader assignments and a variety of different duties and responsibilities within teams (Avolio & Sosik, 1999; Sims & Lorenzi, 1992). And enriched for the reason that greater responsibility for the completion and coordination of tasks in teams and greater degree of autonomy is required, as well as requiring more decision-making in all levels of the organization about the work that is being done (Yeatts et al., 2000; Yeatts & Hyten, 1998).

**Changing Job Requirements.** Another key feature of the restructured work environment is the reorganization of employee job requirements, work schedules and structure of work. Work schedules are characterized by the number of hours worked, number of days worked, travel frequency, and commute time. The demands for more flexible and adaptive work environments have translated to more demand for
flexible and adaptive work schedules. These schedules are meant to be flexible enough to extend operating hours, in response to predictable peaks in labor demands for certain parts of the day, week, or the year, as well as less predictable times when coverage is needed due to market uncertainty (Sparks, Faragher, & Cooper, 2001).

In addition to the changes that have occurred to the actual worktime of employees today, there have also been changes in the economic structure of work. This shift can be seen in the increased amount of time people spend away from their offices or primary job location, more specifically in commute time and travel time. Shifts in job growths, opportunities, the need to find inexpensive or cheaper housing, over-crowded school systems, increase in contingent work, and increase in job changes have made extended commuting the only option for millions of workers. These longer commutes have decreased the likelihood that workers live close to their place of employment (Giuliano, 1998; Hanson & McLaughlin, 1995). Today many workers are also required to travel from one location to another within the same company. These locations can be either spread out within the United States or internationally.
Changing Work Climate. Work climate can be described as the atmosphere of the job and has been characterized by the pace, time demands, interruptions, and inter-personal conflict found on the job. According to a USA Today (2001) magazine article, a survey done by Oxford Health plans found that Americans are “working themselves sick.” One in six American workers are unable to use their annual vacation time due to their job demands, 34% say that their jobs are so fast paced that they have no down time at work, 32% work and eat lunch at the same time, and 32% never leave the building once they arrive at work. Changes in work characteristics to more enlarged jobs are creating a faster pace and more demanding work climate than in the past.

Changing Worker Characteristics. The introduction of sophisticated and fast-changing technology has brought about changes to the way work is done in organizations today. Consequently, this means that there is and will continue to be an increased demand for highly educated workers and relatively less demand for workers who can only perform physically demanding labor (Naisbit, 1982). This also means that the best jobs will go to the individuals with skills gained through higher education. In addition, there is and will continue to be an increased
expectation for employees to be involved in continuous training and learning. All these changes together result in a new culture that requires the continuous improvement and development of knowledge, skills, and abilities by all employees within the workforce, in contrast to what previous traditional stable work cultures demanded (Hall & Marvis, 1995).

The broader the repertoire of competencies, portable skills and abilities, and the larger the knowledge base that an employee possesses will result in an increase in his or her mobility and attractiveness to organizations (Hall & Marvis, 1995; Yeatts et al., 2000). Conversely, individual obsolescence, which is defined by a falling behind in understanding how to use new tools or techniques and allowing ones skills to become stagnant, can reduce the breadth of available opportunities (Hall & Marvis, 1995; Yeatts et al., 2000).

Fossum et al. (1986) found individual obsolescence to occur more frequently among midlife and older workers. This has contributed to findings that midlife and older workers have spent the bulk of their working years in long tenure jobs and thus become specialized over time, possessing skills that are job-specific and are not transferable to other industries and organizations (Fossum
The effects of specialization can reduce the ability of midlife and older workers to develop the knowledge, skills, and abilities necessary to perform outside their current job and organization (Fossum et al., 1986).

For these reasons, there is an increased focus on midlife workers’ career needs. However, midlife workers tend to be at a disadvantage when it comes to career self-management. Transitioning from a typical organizational-driven career (traditional work culture), one in which the organization directs where an individual will end up in his/her career, to a protean career, which is when an individual takes responsibility and directs his/her career, can become a difficult task for an individual in midlife. Researchers believe that as individuals get older they only benefit in career improvement and advancement up to a certain point (Yeatts et al., 2000). Yeatts et al. (2000) suggest that an individual’s value to an organization peaks in early career and reaches a plateau some time in midcareer, and then steadily declines as the individual ages. Thus, as individuals hit the middle of their careers, they become more concerned about protecting themselves rather than
continuing to challenge themselves (Bailey & Hansson, 1995). As a result, midlife workers take on jobs that are more routine in nature in order to avoid failure and minimize the risk they have to take (Bailey & Hansson, 1995).

In summary, midlife workers face different adaptation challenges and have unique needs, responsibilities, work values, and work experiences, in contrast to other age groups. For midlife workers there are many important changes in the personal and work life domains occurring at this time, changing social relationships, evolving identity, sociocultural influences, awareness of finitude of lifetime, common biological life events, changing job characteristics, changing job requirements, changing work climate, and changing worker characteristics. As noted, work often affects one's personal life, and vice-versa. Thus, it is the interlocking and concurrent changes in both life domains that are going to present a challenge to midlife workers and may create a context for negative outcomes or consequences.

Negative Outcomes and Consequences

Aldwin and Levenson (2001) state that it is normatively anticipated that some serious challenges will
occur in midlife, resulting in some negative outcomes and consequences. By pinpointing the key set of challenges in midlife (as done in the previous section), we can then have a more complete picture of how these challenges are affecting midlife workers in regards to the negative outcomes and consequences being created. Subsequently, we can then look at the coping process by which midlife adults may use to approach changes that challenge them and create specific negative outcomes.

Stress

As noted earlier, we live in a world that is constantly changing and evolving. It is these changes in the personal and work life domains that are creating specific challenges to midlife individuals. The combination of these challenges may exert detrimental effects, labeled as negative outcomes and consequences, on the individuals exposed to them. Many studies indicate that the more individuals are exposed to challenges and changes in their work life domain and challenges and changes in their personal life domain concurrently (external demands), the more susceptible they become to stress (Doby & Caplan, 1995; Greenberg & Baron, 2000; Kossek & Ozeki, 1998; Lyness & Thompson, 1997; Marquie & Foret, 1999; Moss, 1981; Muchinsky, 2000; Peterson, Smith,
& Akande, 1995; Quick & Quick, 1984; Selye, 1986; Shaw & Riskind, 1983; Sparks et al., 2001; Williams & Alliger, 1994).

Stress can be defined as the complex pattern of emotional states, physiological reactions, and conflicting or ambiguous relationships in response to external demands (Greenberg & Baron, 2000). Or in other words, the prolonged exposure to the external demands, such changes in life domains, produces the accumulated negative effects displayed as physiological, biological, physical, and inter-personal reactions. It is these accumulated negative effects in which the midlife worker must cope with in order to successfully age.

However, due to the limitations of using existing data, not all the accumulated negative effects of the external demands discussed in the previous section will be used in this examination of the work adaptation process of midlife workers. Therefore, below are three accepted and common accumulated negative effects that are produced by the stress of midlife: strain, distress, and role conflict.

**Strain.** Strain is most often described as the physical, biological, and physiological effects of prolonged exposure to stress. Strain can manifest as
burnout, or medical problems, which include cardiovascular symptoms such as increased blood pressure and cholesterol level, in addition to heart disease, stroke, headaches, backaches, sleeplessness, increased irritability, exhaustion and fatigue, changing moods, ulcers and skin conditions (Doby & Caplan, 1995; Greenberg & Baron, 2000; Kossek & Ozeki, 1998; Lyness & Thompson, 1997; Marquie & Foret, 1999; Moss, 1981; Muchinsky, 2000; Peterson, Smith, & Akande, 1995; Quick & Quick, 1984; Selye, 1986; Shaw & Riskind, 1983; Sparks et al., 2001; Williams & Alliger, 1994). Strain can be more powerful for individuals in midlife because they are experiencing a greater number of changes (Aldwin & Levenson, 2001; Rosenberg, Rosenberg, & Farrell, 1999).

Distress. One of the most intriguing mysteries of midlife development that has found an enduring place in both academic literature as well as cultural folktales is the myth of the midlife crisis. The midlife crisis theory emerged in the 1960s and 1970s in the social science literature in an attempt to understand the impact of midlife transition on individuals and the consequences it produces (Rosenberg et al., 1999).

The midlife crisis theory has found much acclaim and appeal both in the scientific and public arena. However,
there has been insubstantial empirical evidence in the support of its existence. Despite the evidence that it doesn’t exist, it still continues to survive through the years as a perceived strong developmental phenomenon (Rosenberg et al., 1999).

Although this theory of midlife has not found empirical support, "It seems likely that this myth fulfills an adaptive function that lends credibility and resilience" (Heckhausen, 2001, p. 345). It lingers around because it seems to have information that it is trying to convey, or perhaps it is attempting to lend a realistic sense of what midlife is, a time of loss resulting from a dramatic change in all aspects of life that results in some type of stress (Rosenberg et al., 1999).

For example, within the personal life domain, taking on multiple normative roles indicates a loss of freedom, time, and energy. An evolving identity signifies a loss in sense of self. Sociocultural influences characterize a loss of youth and attractiveness. Awareness of the finitude of one’s lifetime describes a loss in time and life-long goals and dreams. Common expected life events are the actual loss of loved ones and a loss in the capability to reproduce for women. A similar sense of loss is found in the work domain. For instance, the changing
workplace signifies a loss in stability and a traditional environment in which midlife workers have become accustomed to for a good portion of their work life.

Despite empirical support, what has been acknowledged by research is that although most individuals in midlife are not faced with a "crisis" of some sort, it is normatively anticipated that some perceived or real losses will occur, which may in turn result in some negative outcomes or consequences in the form of stress described best as distress, such as depression, anxiety, feelings of hopelessness or worthlessness, sadness, and embarrassment (Aldwin & Levenson, 2001; McQuaide, 1998; Rosenberg, et al., 1999; Scharlach, 1991; Scharlach & Fredriksen, 1993; Slade & Amalee, 1995).

**Role Conflict.** There are tremendous shifts occurring in both personal and work responsibilities and obligations in midlife. Specifically, in the personal domain men and women in midlife are occupying a higher number of roles and are exposed to more daily hassles than in any other period of life. In tandem, the current workplace is becoming more enriched with enlarged job characteristics. That is on average, increasing the number of assignments, duties or tasks that require greater responsibility, as well as a greater degree of autonomy and more
decision-making. The result is a constant juggling of work and family responsibilities and obligations that in turn expose those involved to another widely recognized form of stress, role conflict.

The majority of studies examining negative outcomes or consequences in midlife identify multiple roles as a major source of conflict that can have various consequences to the individual’s well-being due to the fact that the conflict is seen as “generating emotional stress of varying degrees of intensity” (Magai & Halpern, 2001, p. 333). Role conflict occurs when demands, referred to pressures on the individual’s time, emotions, energy, and resources, associated with one role interfere or distract from another role (Almeida et al., 2002; Greenhaus & Buetell, 1985; Marks, 1998; Netemeyer, Boles, & McMurrian, 1996).

To summarize, when examining midlife in context, which includes all the components of an individual’s life that may effect adaptation and aging, there are many interlocking and concurrent changes in both life domains that are going to present a challenge to midlife workers and have the potential to create a context for negative outcomes or consequences in the form of stress. According Aldwin and Levenson (2001) it is normatively anticipated
that midlife individuals will be exposed to some stress which will render them more susceptible to detrimental effects in the form of strain, distress, and role conflict; and for that reason, there is an increasing need for midlife individuals to be able to easily change their adaptive process to cope with challenges and responsibilities of midlife, and thus become accustomed to the changes that are occurring in their life at this time.

Thus, the last step and my goal in writing this paper, is to construct a model of midlife work adaptation that depicts a basic framework outlining coping processes by which midlife adults use to approach changes identified in the current midlife context that challenge them cognitively, physically, and emotionally. This model will provide clarification and direction needed to establish the extent these workers will be able to successfully adapt to the negative outcomes and the consequences the changes may produce, and thus successfully age in the changing work environment, in contrast to leaving it.

The Conceptual Models

There are two models that were constructed to explain the adaptation process in midlife. The first model is the confirmatory factor analysis model, which is presented in Figure 1. The purpose of this model is to measure the
three potential underlying constructs representing adaptation in midlife by examining the relationship between hypothesized indicators and the constructs. The indicators for the three potential underlying constructs are as follows: the Absence of Stress factor (with absence of strain, absence of distress, and absence of role conflict as indicators), the Comparative Resources factor (with support systems and personality, agreeableness and extraversion, as indicators), and the Successful Mid-life Aging in a Changing Work Environment factor (with wisdom insights, wisdom comfort with self, emotional intelligence, and adaptive competence as indicators).

The second model is The Model of Midlife Adaptation, which is presented in Figure 2. The purpose of this model is to explain the hypothesized relationships between three potential underlying constructs representing a basic framework outlining adaptation in midlife originating from the theorized coping processes by which midlife adults use to approach changes. All hypotheses are listed in APPENDIX A.
Figure 1. The Confirmatory Factor Analysis Model
The major goal of this study is to conduct a systematic examination of the work adaptation process of midlife workers that will identify coping processes which will allow individuals in midlife to successfully adapt to the negative outcomes and consequences produced by the
changes occurring in both personal and work domains, and thus successfully age in the changing work environment. In reviewing the coping and adaptation literature, underlying assumptions describing coping processes were identified and applied to the current midlife context. By investigating and testing these assumptions it will either provide a basic framework that adds the clarification and direction needed to establish the extent these workers will be able to successfully adapt to the negative outcomes and the consequences the changes may produce, in contrast to leaving the workforce; or uncover a greater need to look for other coping processes that may fit today's unique midlife challenges.

Absence of Stress

A basic premise of this study is that change is inevitable, as the world changes, so must everything around it change, for the simple fact that it has to adapt in order to survive. The assumption is that change is what places a demand on the worker to constantly adapt, and thus triggering a coping process. Through this examination it has been apparent that the midlife individual and his/her environment are drastically changing and as a result midlife workers are and will continue to be exposed to changes that have the potential to render them more
susceptible to detrimental effects of stress. This means, there is an increasing need to look at coping processes that focus on one's ability to create a complimentary, reciprocal, and closer “fit” between him/herself and his/her environment, either by adjusting or modifying him/herself or surroundings (Atchley, 1987; Yeatts et al., 2000).

In this discussion of change, it is also an underlying assumption that without changes, negative accumulated outcomes would not be produced; and accordingly an absence of stress would manifest, thus creating a positive context free from a need for adaptation. As a result, there would be no need to look at coping processes that focus on one's ability to create a complimentary, reciprocal, and closer “fit” between him/herself and his/her environment. A context free from stress would be an ideal situation eliminating the need for adaptation in midlife.

In order to provide support for the studies basic premise, it needs to be shown that a context free of stress would indeed lead to successful midlife aging in a changing work environment. However, if it is found that an absence of stress does not lead to successful midlife aging in a changing work environment, there is a need to
re-evaluate the context of midlife and look for answers beyond this studies scope.

**Hypothesis One.** Absence of stress will predict successful midlife aging in a changing work environment as depicted in Figure 2.

**Comparative Resources**

However, if the studies basic premise holds true, and change is inevitable, it is normatively anticipated that some serious challenges will occur in midlife, resulting in some negative outcomes and consequences, then coping processes by which midlife adults use to approach changes that challenge them cognitively, physically, and emotionally is needed.

Some researchers believe that whether specific challenges create negative outcomes and consequences depends on the resources available. Heckhauasen (2001) maintains that most people are not exposed to the negative outcomes and consequences created by the challenges of midlife due to the fact that they are typically matched by resources that individuals in midlife have accumulated throughout their lifetime. In other words, by possessing these comparative resources, an individual in midlife can decrease or negate all negative outcomes and consequences produced by the challenges that are occurring. As shown in
Figure 1 (second from the top) the resources believed to be available to midlife individuals are support systems and personality characteristics.

**Support Systems.** Among midlife men and women, it has been shown that the nature and quality of support systems are known to influence well-being at midlife (Ryff, 1997). Support systems provide a protective layer of emotional support that helps guide, encourage, counsel, and protect individuals as they move through midlife. The importance of emotional support systems in midlife is that they enable one to confront the challenges and responsibilities characterized by that life stage. Due to the fact that most individuals in midlife feel that they are providing more support than they are actually receiving themselves, emotional support systems become very important barriers against the various negative outcomes associated with midlife and help maximize the probability of positive outcomes in the achievement of well-being (Antonucci et al., 2001).

**Personality.** Personality characteristics are believed to have a major effect on the nature and course of development throughout the lifespan (Lachman & Bertrand, 2001). Some theorists have identified personality to be the key determinant of how individuals experience
transitions throughout the life course (Costa & McCrae, 1980). According to Jung (1933) personality is likely to be the driving force behind the experience and resolution of the challenges in midlife. Lachman et al. (1994) believe that an individual’s personality is a psychological resource (accumulated benefit of long-term maturation) available for individuals when they reach midlife, for the reason that by the time individuals reach midlife they have developed their personality to meet the challenges this stage of life brings.

Although there are many approaches to assessing personality, a consensus has grown among many researchers to focus on five dimensions of personality. These dimensions are extraversion, neuroticism, openness to experience, agreeableness, and conscientiousness (Costa & McCrae, 1994). Due to the limitations of using existing data this investigation will examine only two of the big five dimensions of personality, agreeableness and extraversion. Extraversion is defined as talkative, friendly, spontaneous, and bold; while agreeableness is defined as good natured, helpful, trusting, and lenient.

In short, comparative resources are helpful tools available to those individuals who posses them in midlife. Depending on the resources available, such as family
support systems and dimensions of personality, individuals in midlife will experience more positive outcomes because resources typically create a protective layer that helps decrease the detrimental effects of negative outcomes produced by the challenges of midlife.

**Hypothesis Two.** There will be a positive relationship between absence of stress and comparative resources. That is, the more comparative resources an individual in midlife accumulates the more absence of stress will be seen as depicted in Figure 2.

**Adaptation with Comparative Resources**

If comparative resources in theory creates a protective layer that helps decrease or negate the negative outcomes and consequences for an individual progressing through midlife, thus allowing the individual to experience a more positive stage of life, and an absence of stress promotes successful adaptation and ultimately predicts successfully midlife aging, then logically, comparative resources will predict successful midlife aging in a changing work environment.

**Hypothesis Three.** Comparative resources will predict successful midlife aging in a changing work environment, as depicted in Figure 1.
Successful Midlife Aging

Although adaptation is not a new demand placed on workers in the workplace, it is the extent to which workers are able to successfully adapt to these changes occurring in their personal and work life that will determine the produced effects and ultimately have a tremendous impact on the organizations they work for, global competitiveness, economic productivity and growth, government programs, social security, and on the workers themselves.

Specifically, if a midlife worker is unsuccessful in his/her adaptation to the changes occurring, the consequence is an accumulation of stressful outcomes that will consequently result in adverse effects. First, he/she may become overwhelmed and elect to retire early, which will leave a shortage in skilled, qualified, and experienced workers. Second, there could be a systematic decrease in productivity, creativity, and innovation. Conversely, there may be an increase in job dissatisfaction and absenteeism, and a decrease in job performance (Aldwin & Levenson, 2001). Lastly, an increase in depression, increased risk of serious acute and chronic illnesses, diseases, and disabilities (e.g., coronary heart disease, cancer, stroke, migraine headache,

On the other hand, if a midlife worker is successful in his/her adaptation to the changes occurring, meaning that he/she has created a complimentary, reciprocal, and closer “fit” between him/herself and his/her environment, which requires a serious examination of ones self and ones surroundings, results in a successful process of adaptation. In turn, a successful process of adaptation in midlife is likely to trigger and produce successful midlife aging abilities.

The concept of successful midlife aging is not an endpoint, outcome, or a state in which individuals reach. Successful midlife aging is, however, a developmental construct that reflects the transactional perspective of aging. More specifically, successful midlife aging is always-emerging and prevailing abilities to adapt throughout life (Clark & Anderson, 1967; Featherman, Smith, & Peterson, 1990). Below the indicators or abilities (Figure 1 on the bottom) believed to be the criterion that best represents successful midlife aging in
a changing work environment, based on the variables available in this study, are discussed.

**Wisdom**

A successful process of midlife adaptation can entail the development of self-knowledge and self-awareness, the loss of destructive behaviors and cognition, and an increase in compassion and empathy. It is through these developments that one can gain wisdom (Aldwin & Levenson, 2001; Erikson, Erikson, & Kivnick, 1986). Aldwin and Levenson (2001) point out that it is a mistake to believe that all life challenges are bad and that nothing beneficial can come from them. Challenges make us test our assumptions we hold about the world and ourselves, as well as force us to abandon all unrealistic or damaging beliefs. Wisdom is not possible unless one has fully let go of the old self and accepts the changes of aging. Self-delusion is thought to be the major source of unwise actions (Aldwin & Levenson, 2001). It is through the adaptation process that individuals learn what delusions they have been holding on to.

Wisdom also involves the understanding and acceptance that one has led the only possible life that one can lead (Aldwin & Levenson, 2001; Erikson, Erokson, & Kivnick, 1986). Individuals who have gained wisdom through coping
no longer regret their mistakes, wonder what would have
happened if they did something else with their lives; they
come to realize that the choices and decisions they have
made constitute oneself and therefore are comfortable with
oneself. In addition they understand the process by which
they became the person they are, and thus are more
satisfied with who they have become and thus will be more
likely to use the remaining time in their lives positively
and more fully (Aldwin & Levenson, 2001; Erikson, Brokson,
& Kivnick, 1986).

Emotional Intelligence

Traditionally, when people speak about an
individual's "intelligence" they are referring to a
specific form of cognitive intelligence, which is the
ability to adapt effectively to the environment, to learn
from experience, to engage in various forms of reasoning,
and to overcome obstacles by careful analysis (Neisser,
Boodoo, Bouchard, Bykin, Brody, Ceci, Halpen, Loehlin,
Perloff, Sternberg, & Urbina, 1996). However, it is widely
accepted today that intelligence is not a single, unitary
ability; rather, it is a group of different abilities
(Goleman, 1998). Several forms of intelligence have been
identified. Emotional intelligence is linked closely to
the results of a successful process of adaptation.
According to Goleman (1998) emotional intelligence refers to a cluster of abilities relating to emotional or "feeling" side of life. Specifically, individuals with emotional intelligence have the ability to recognize and regulate their own emotions and thus motivate themselves to persistent and find the positive in difficult or challenging circumstances or situations, thus resisting the temptation to quite or give up. Richards and Gross (2000) believe that a well-developed capacity to maintain and control ones emotions in any situation can be seen as a form of adaptation. The abilities that make up emotional intelligence have been hypothesized to relate to psychological adaptation (Salovey & Mayer, 1990).

Adaptive Competence

According to Featherman et al. (1990) adaptive competence is one expression of the transactional process of successful aging. Adaptive competence is defined as, "a generalized capacity to respond with resilience to challenges arising from one’s body, mind, and environment" (p. 53). More specifically it is an individual’s reactive problem-solving capacity that allow for him/her to respond adaptively to those challenges that are unique to that period of life.
Problem-solving orientation implies that when a problem arises, the individual quickly seeks to restore the situation to normal, either how it was before or how it should be. This orientation promotes an efficient search for the best or most effective solution to a problem. In the event that the problem arose before in the past, the same solution may apply. This approach focuses more on the problem at hand and not so much on the cause or outcome.

This orientation characterizes a different heuristic or style of thinking when problems arise in life that needs to be solved in order to successfully adapt to the situation presented. It is speculated that individuals who are able to selectively use rational problem solving while appraising the changing context and the types of challenges that confront their competence are more likely to be successful in their aging (Featherman et al., 1990).

In summary, when individuals are forced to seriously examine themselves and their environment, due to the challenges they are confronted with will result in a successful adaptation process. It’s the examination process that provides the means for an individual to become more successful in adaptation; thus promoting successful midlife aging in a changing work environment.
Summary

The present study's focus has included a systematic examination of the work adaptation process of midlife workers. Specifically, an examination of the changes in the personal and work life domains occurring at this time, which include changing social relationships, evolving identity, sociocultural influences, awareness of finitude of lifetime, common biological life events, changing job characteristics, changing job requirements, changing work climate, and changing worker characteristics.

In addition an examination of how these challenges and responsibilities are affecting midlife workers in regards to the negative outcomes and consequences being created was done. It is anticipated that midlife individuals in general will be exposed to some stress that will render them more susceptible to detrimental effects such as strain, distress, and role conflict. Thus, there is an increasing need for midlife individuals to be able to easily adapt to these changes which will trigger a need for a process of coping that will help them become accustomed to the changes that are occurring in their life at that time.

For that reason, a model of midlife adaptation was constructed to depict a basic framework outlining coping
processes by which midlife adults may use to approach changes that challenge them cognitively, physically, and emotionally; this basic framework will provide clarification and direction needed to establish the extent these workers will be able to successfully adapt to the negative outcomes and the consequences the current changes may produce, and thus successfully age in the changing work environment, in contrast to leaving it. It was this model that will be used to test the fit with the preexisting data from the Midlife in the United States (MIDUS) survey that was collected by the John D. and Catherine T. MacArthur Foundation Research Network on Successful Midlife Development (MIDMAC).
CHAPTER TWO

METHODS

Research Design and Assumptions

The data used for this study came from The National Survey of Midlife Development in the U.S. (MIDUS) conducted in 1995 by the John D. and Catherine T. MacArthur Foundation Network on Successful Midlife Development.

Participants

The data was based on a nationally representative random-digit-dial sample of non-institutionalized, English-speaking adults, selected from working telephone numbers in the United States. There was an over sampling of all older people and men. The main data set contains 4,242 respondents. Ages ranged from 25 to 74 years old (M = 47.06 years, SD = 13.11), men comprised 49% of the sample, and the majority of the sample participants were Caucasian (89%). For the purpose of this study only those in midlife (ages between 40-65) were used, thus the main data set contained 2276 respondents, men (50.9%) and women (49.1%), age 40-45 (26.4%), 46-50 (21.9%), 51-55 (18.9), 56-60 (17.6), and 61-65 (15.2%).
Procedure

A household listing was generated of people in the age range 25-74 and a random respondent was selected from each household. Once it was determined that researchers wanted to include the random respondent in the survey, an attempt was made to talk with this person and recruit him/her to be a participant. No other person in the household was selected if the targeted respondent was not recruited. A study fact brochure was mailed to respondents who asked for more information before deciding and a telephone appointment was made after the time they receive the brochure. Senior staff was also made available to respondents requesting information not contained in the brochure, before deciding to participate.

Once selected respondents decided to participate, the researchers carried out a telephone interview that lasted an average of thirty minutes and mailed questionnaires that were estimated to take an average of an additional two hours to complete. The questionnaire mailing also included a boxed pen and a check for $20. A reminder postcard was mailed to all respondents three days after the initial questionnaire. A second questionnaire with a cover letter urging respondents to return the questionnaire was mailed two weeks later to all
respondents who had not returned the questionnaire by that time. Reminder telephone calls were made two weeks later to all respondents who had still not returned the questionnaire. In these final calls, interviewers offered additional financial incentive to complete and return the questionnaires. The response rates were as follows, 70.0% for the telephone interview, 86.8% for the completion of the main questionnaire among the telephone respondents, and 60.8% for the overall response rate.

Measures

Ten separate principle component factor extractions with a varimax rotation were performed through SPSS 11 on 10 scales from the hypothesized three factor CFA model for a sample of 2276 midlife respondents (see APPENDIX B SCALE CREATION for results of the ten separate factor analysis). The Absence of Stress factor was measured with the following scales: Absence of Strain, Absence of Distress, and Absence of Role Conflict. The Comparative Resources factor was measured with the following three scales: Support Systems Family and Personality (Agreeableness and Extraversion). The Successful Midlife Aging in a Changing Work Environment factor was measured using four scales: Wisdom Insights, Wisdom Comfort with Self, Emotional
Intelligence, and Adaptive Competence. Individual items for each scale are listed in APPENDIX C.

It must be noted that despite the known problems and criticisms with EFA factor analytic methods, a PCA with varimax rotation was used to create the scales used in this study versus more recommended approaches. And using this method may indeed distort the results. However, a Confirmatory Factor Analysis was performed using the scales created by PCA approach to ensure psychometrically sound measures.

Model Specification

The models will be specified using the Bentler-Weeks method. Latent variables are represented with circles and measured variables are represented with squares. A line with an arrow indicates a hypothesized direct relationship between the variables. Absence of a line implies no hypothesized relationship. The asterisks indicate parameters to be estimated. The number 1 indicates that a parameter, either a path coefficient or variable, has been set (fixed) to the value of 1 (see Figure 3 for the hypothesized confirmatory factor analysis model).
Absence of Strain V1
Absence of Distress V2
Absence of Role Conflict V3
Support System Family V4
Agreeableness V5
Extraversion V6
Wisdom Insights V7
Wisdom Comfort With Self V8
Emotional Intelligence V9
Adaptive Competence V10

Absence of Stress F1 1.00
Comparative Resources F2 1.00
Successful Midlife Aging in a Changing Work Environment F3 1.00

Figure 3. The Hypothesized Confirmatory Factor Analysis Model

Data Screening Prior to Analyses

Prior to running any analyses, all scales in the data set were screened for the 2276 respondents using SPSS 11.
Accuracy of Data File. The first examination completed was a screen for accuracy of the data file, which included checking all variables for correct labeling of name and levels, as well as checking that missing data was coded correctly as missing.

Missing Data. Each scale was examined for missing data through SPSS MVA (Missing Value Analysis) to determine how much data was missing, the pattern of missing data, and the reason for the missing data (systematic or unsystematic). The analysis found all scales to have more than 10% missing data (See Table 1 for results of the missing value analysis). With this information it had to be determine whether the variables with missing data was due to systematic or unsystematic error using t-tests and scale means. A TTEST was requested to see if missingness is related to any of the other scales, with $\alpha = .05$. The result of the t-tests, $p(2\text{-tail}) < .001$, found that for the scales with missing data, one was significantly related to another scale, which demonstrates that for these scales there is a difference between those who are present and missing, concluding that there may be random missing data pattern. The scale absence of role conflict was significantly related to absence of distress $t(866) = 4.2, p < .001$. 

50
Table 1. Summary of Complete Cases for Each Scale from the Missing Value Analysis

<table>
<thead>
<tr>
<th>Scale</th>
<th>Total N</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Missing Count</th>
<th>Percent Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence of Stress</td>
<td>1888</td>
<td>4.62</td>
<td>.88</td>
<td>758</td>
<td>15.5</td>
</tr>
<tr>
<td>Absence of Strain</td>
<td>1957</td>
<td>3.84</td>
<td>.64</td>
<td>631</td>
<td>12.4</td>
</tr>
<tr>
<td>Absence of Distress</td>
<td>1430</td>
<td>3.58</td>
<td>.56</td>
<td>1652</td>
<td>36.0</td>
</tr>
<tr>
<td>Comparative Resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SS Family</td>
<td>1945</td>
<td>3.32</td>
<td>.54</td>
<td>657</td>
<td>12.9</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>1963</td>
<td>3.48</td>
<td>.49</td>
<td>627</td>
<td>12.1</td>
</tr>
<tr>
<td>Extraversion</td>
<td>1947</td>
<td>3.21</td>
<td>.56</td>
<td>637</td>
<td>12.8</td>
</tr>
<tr>
<td>Successful Midlife Aging In a Changing Work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environment</td>
<td>1972</td>
<td>2.87</td>
<td>.76</td>
<td>611</td>
<td>11.7</td>
</tr>
<tr>
<td>Wisdom Insights</td>
<td>1957</td>
<td>3.29</td>
<td>.56</td>
<td>651</td>
<td>12.4</td>
</tr>
<tr>
<td>Wisdom Comfort</td>
<td>1963</td>
<td>3.33</td>
<td>.52</td>
<td>618</td>
<td>12.1</td>
</tr>
<tr>
<td>Emotional Intelligence</td>
<td>1959</td>
<td>2.76</td>
<td>.55</td>
<td>630</td>
<td>12.3</td>
</tr>
<tr>
<td>Adaptive Competence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

However, when examining the means for present and missing data for the scales (see Table 2) it was found that they were in fact similar, and thus it is concluded that the difference wasn’t meaningful, and thus indicates unsystematic error.

Table 2. Present and Missing Means for Scales Found to Have Systematically Missing Data Pattern

<table>
<thead>
<tr>
<th>Scales</th>
<th>Mean (Present)</th>
<th>Mean (Missing)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence of Distress</td>
<td>3.9</td>
<td>3.8</td>
</tr>
<tr>
<td>Absence of Role Conflict</td>
<td>3.6</td>
<td>3.7</td>
</tr>
</tbody>
</table>
Next, a decision had to be made about whether missing data should be deleted or estimated. A number of factors were taken into consideration when determining whether to delete or estimate. After listwise deletion for all ten scales there would be a total of 1245 cases left to use in the main analyses; it was determined that the number of cases would still provide enough power to run the model. Next, an Expectation maximization (EM) method was chosen to request a Little’s MCAR test. Little’s MCAR results was \( \chi^2(518) = 56.012, p > .001 \), indicating that the missing data is not MCAR. However, it was determined that the data would be estimated for the reason that SEM is a large-sample technique and is very sensitive to sample size. Ullman (2001) recommends that to reveal a minimal meaningful difference a sample size needs to be large enough and it is therefore very difficult to detect a meaningful difference when sample size is small. In light of no evidence to indicate any serious problems an expectation maximization (EM) method was used to estimate missing data. After estimation of missing data, means and standard deviations for all values were compared with means and standard deviations for estimated data to ensure that the EM method produced realistic estimates of variance (see Table 3 for summary of comparisons).
Table 3. Summary of Comparison Means and Standard Deviations for Estimated Data

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Estimated Mean</th>
<th>Std. Dev.</th>
<th>Estimated Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence of Strain</td>
<td>4.62</td>
<td>4.61</td>
<td>.880</td>
<td>.881</td>
</tr>
<tr>
<td>Absence of Distress</td>
<td>3.84</td>
<td>3.84</td>
<td>.644</td>
<td>.644</td>
</tr>
<tr>
<td>Absence of Role Conflict</td>
<td>3.58</td>
<td>3.59</td>
<td>.565</td>
<td>.565</td>
</tr>
<tr>
<td>SS Family</td>
<td>3.32</td>
<td>3.32</td>
<td>.545</td>
<td>.545</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>3.48</td>
<td>3.48</td>
<td>.494</td>
<td>.494</td>
</tr>
<tr>
<td>Extraversion</td>
<td>3.17</td>
<td>3.17</td>
<td>.567</td>
<td>.567</td>
</tr>
<tr>
<td>Wisdom Insights</td>
<td>2.89</td>
<td>2.88</td>
<td>.766</td>
<td>.767</td>
</tr>
<tr>
<td>Wisdom Comfort with Self</td>
<td>3.31</td>
<td>3.31</td>
<td>.558</td>
<td>.558</td>
</tr>
<tr>
<td>Emotional Intelligence</td>
<td>3.32</td>
<td>3.32</td>
<td>.524</td>
<td>.524</td>
</tr>
<tr>
<td>Adaptive Competence</td>
<td>2.75</td>
<td>2.74</td>
<td>.553</td>
<td>.553</td>
</tr>
</tbody>
</table>

Next, the 2234 complete cases were randomly separated into two samples, 1000 cases were used for the CFA model analysis and 1234 cases are used for the cross-validation analysis. See Table 4 for summary of demographics for all samples.
<table>
<thead>
<tr>
<th></th>
<th>Full Data Set of 2234</th>
<th>CPA Sample of 1000</th>
<th>Cross-Validation Sample of 1234</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>50.9%</td>
<td>52.9%</td>
<td>49.4%</td>
</tr>
<tr>
<td>Female</td>
<td>49.1%</td>
<td>47.1%</td>
<td>50.6%</td>
</tr>
<tr>
<td>Working Full Time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>65.9%</td>
<td>66.3%</td>
<td>65.6%</td>
</tr>
<tr>
<td>No</td>
<td>28.7%</td>
<td>28.0%</td>
<td>29.3%</td>
</tr>
<tr>
<td>Missing</td>
<td>5.3%</td>
<td>5.7%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Working Part Time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>25.8%</td>
<td>26.2%</td>
<td>25.4%</td>
</tr>
<tr>
<td>No</td>
<td>64.5%</td>
<td>63.8%</td>
<td>64.5%</td>
</tr>
<tr>
<td>Missing</td>
<td>9.7%</td>
<td>9.7%</td>
<td>9.7%</td>
</tr>
<tr>
<td>Retired Now</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>23.2%</td>
<td>26.2%</td>
<td>22.7%</td>
</tr>
<tr>
<td>No</td>
<td>69.1%</td>
<td>64.1%</td>
<td>70.0%</td>
</tr>
<tr>
<td>Missing</td>
<td>7.7%</td>
<td>9.7%</td>
<td>7.3%</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-14,999</td>
<td>30.7%</td>
<td>28.9%</td>
<td>32.2%</td>
</tr>
<tr>
<td>15,000-24,999</td>
<td>20.5%</td>
<td>19.3%</td>
<td>19.7%</td>
</tr>
<tr>
<td>25,000-49,999</td>
<td>28.6%</td>
<td>28.4%</td>
<td>28.7%</td>
</tr>
<tr>
<td>50,000-or more</td>
<td>15.8%</td>
<td>17.8%</td>
<td>14.2%</td>
</tr>
<tr>
<td>Missing</td>
<td>5.4%</td>
<td>5.6%</td>
<td>5.2%</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>88.2%</td>
<td>88.1%</td>
<td>88.2%</td>
</tr>
<tr>
<td>African American</td>
<td>5.5%</td>
<td>5.3%</td>
<td>5.7%</td>
</tr>
<tr>
<td>Native American</td>
<td>.5%</td>
<td>.5%</td>
<td>.6%</td>
</tr>
<tr>
<td>Asian</td>
<td>.7%</td>
<td>.8%</td>
<td>.6%</td>
</tr>
<tr>
<td>Other</td>
<td>1.7%</td>
<td>1.8%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Multiracial</td>
<td>.8%</td>
<td>.8%</td>
<td>.7%</td>
</tr>
<tr>
<td>Missing</td>
<td>2.7%</td>
<td>2.7%</td>
<td>2.7%</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some School</td>
<td>10.4%</td>
<td>10.8%</td>
<td>10.1%</td>
</tr>
<tr>
<td>HS Diploma or GED</td>
<td>28.9%</td>
<td>29.0%</td>
<td>28.9%</td>
</tr>
<tr>
<td>Some College</td>
<td>28.6%</td>
<td>28.5%</td>
<td>23.5%</td>
</tr>
<tr>
<td>4-5 Yr Degree</td>
<td>15.9%</td>
<td>15.4%</td>
<td>16.5%</td>
</tr>
<tr>
<td>Some Graduate school</td>
<td>2.8%</td>
<td>3.3%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Graduate Degree or Above</td>
<td>13.4%</td>
<td>13.0%</td>
<td>13.7%</td>
</tr>
</tbody>
</table>
Univariate and Multivariate Outliers. Next, the assumption of univariate and multivariate outliers were checked for both samples.

Univariate outliers were checked first in the confirmatory Factor Analysis sample. Cases with standardized scores in excess of 3.3 ($p < .001$, two-tailed test) were considered univariate outliers. There were 31 univariate outliers found. Three participants had extremely low scores of Agreeableness ($z = -3.64$ (2) and -4.51). Seven participants had extremely low scores of absence of distress ($z = -3.50, -3.67, -3.84$ (2), -4.01 (2), and -4.18), two participant had a extremely low scores of Emotional Intelligence ($z = -3.71$), one participant had a extremely low score on extraversion ($z = -3.74$), two participant had a extremely low score of Adaptive Competence ($z = -3.53$ (2)), four participant had a extremely low scores of absence of role conflict ($z = -3.57$ (2), -3.98, and -4.59), three participants had extremely low scores of social support family ($z = -3.60$ (2) and -3.85), seven participants had extremely low scores of absence of strain ($z = -3.78$ (2), -3.92, -4.05 (2) and -4.19(2)), and lastly two participants had extremely low scores of wisdom comfort with self.
(z = -3.53). Univariate outliers were deleted and the CFA sample consisted of 975 participants.

Using Mahalanobis distance multivariate outliers were identified next. Any case with a Mahalanobis distance greater than $\chi^2(10) = 29.588, p < .001$ was consider a multivariate outlier. There were 8 multivariate outliers identified. Once multivariate outliers were identified, the next step was to identify what variables were significantly separating the group of multivariate outliers from the rest of the cases. First, the multivariate outliers were described by creating a dummy variable, multivariate outliers were coded 1 and the rest of the cases were coded 0. The dummy variable was then used as the grouping DV predicted from the ten measured variables in a regression analysis through SPSS REGRESSION. The purpose of creating the dummy variable was to separate the outlying variable from the remaining variables. It was found that only two measured variables significantly predicted the group of multivariate outliers, Absence of Stress ($t = -3.577, p < .001$) and Wisdom Comfort with Self ($t = 3.265, p < .001$). Meaning that, the combination of Absence of Stress and Wisdom Comfort scores causes these 8 individuals to be outliers differing from the remaining sample.
Next, multivariate outliers were ran through SPSS CASE SUMMARIES to show outliers case values on Absence of Stress and Wisdom Comfort with Self variables. Then SPPS DESCRIPTIVES were used to show the average values for the remaining sample against which the outlying cases are compared. The multivariate outliers were midlife individuals who reported very little or no stress and were undecided on whether they have accepted who they have become. Multivariate outliers were deleted and the CFA sample consisted of 961 participants.

The outlier assumptions for the cross-validation sample were checked next. Univariate outliers were checked first. Cases with standardized scores in excess of 3.3 (p < .001, two-tailed test) were considered univariate outliers. There were 41 univariate outliers found. Six participants had extremely low scores on Agreeableness ($z = -3.59(2), -4.44 (2), -4.870,$ and -5.30), eight participants had extremely low scores of absence of distress ($z = -3.45, -3.61 (3), -3.78, -4.11, -4.27,$ and -4.59), three participant had a extremely low scores on emotional intelligence ($z = -3.63$ and $-4.62 (2)$), three participant had a extremely low score on extraversion ($z = -3.41(2)$ and -4.17), four participant had a extremely low score of absence of role conflict ($z = -3.43 (2)$, 

57
-3.63, and -4.41), six participants had extremely low scores of social support family (z = -3.34 (2), -3.58, -3.83, -4.07, and -4.56), seven participants had extremely low scores of absence of strain (z = -3.63 (2), -3.77 (2), -3.90, -4.04 and -4.18), and lastly four participants had extremely low scores of wisdom comfort with self (z = -3.40 (2), -3.87, and -4.33). Univariate outliers were deleted and the cross-validation sample consisted of 1197 participants.

Using Mahalanobis distance multivariate outliers were identified next. Any case with a Mahalanobis distance greater than \( \chi^2(10) = 29.588, p < .001 \) was consider an multivariate outlier. There were 10 multivariate outliers identified. Once multivariate outliers were identified, the next step was to identify what variables were significantly separating the group of multivariate outliers from the rest of the cases. First, the multivariate outliers were described by creating a dummy variable, multivariate outliers were coded 1 and the rest of the cases were coded 0. The dummy variable was then used as the grouping DV predicted from the ten measured variables in a regression analysis through SPSS REGRESSION. It was found that only three measured variables significantly predicted the group of
multivariate outliers, Absence of Distress \( (t = -6.67, p < .001) \), Adaptive Competence \( (t = -3.20, p < .001) \) and Wisdom Comfort with Self \( (t = 6.73, p < .001) \). Meaning that, the combination of Absence of Distress, Adaptive Competence, and Wisdom Comfort scores causes these 10 individuals to be outliers differing from the remaining sample.

Next, multivariate outliers were ran through SPSS CASE SUMMARIES to show outliers case values on Absence of Stress, Adaptive Competence, and Wisdom Comfort with Self variables. Then SPPS DESCRIPTIVES were used to show the average values for the remaining sample against which the outlying cases are compared. The multivariate outliers were midlife individuals who reported higher frequencies of distress, reported less capability of rational problem solving, and have higher acceptance for whom they have become. Multivariate outliers were deleted and the cross-validation sample consisted of 1183 participants.

Normality and Linearity. Next, the assumption for skewness and kurtosis was checked for both samples.

Normality of the scales in the confirmatory factor analysis Sample were assessed through examination of histograms using SPSS DESCRIPTIVES and a summary descriptive statistics in EQS. Standardized scores
(z scores) were used to assess normality. Due to the large sample size, a z score of 3.3 (p < .001, two-tailed test) was used as a criterion for significance of violation of assumptions. Eight of the ten scales were significantly skewed (absence of strain z = -12.15, absence of distress z = -12.22, SS Family z = -10.32, Agreeableness z = -9.73, Extraversion z = -4.90, Wisdom Insights z = -4.80, Wisdom Comfort with Self z = -6.82, and Emotional Intelligence z = -7.11). Multivariate normality was assessed using EQS in the section labeled MULTIVARIATE KURTOSIS. Mardia’s coefficient was 22.5421 and a normalized estimate coefficient was 22.5539, suggesting that the measured variables are not distributed normally. Thus, Multivariate Normality was not met.

Following the check for normality, linearity was assessed. It is not feasible to examine all pairwise scatterplots to evaluate linearity; therefore, randomly selected pairs of scatterplots are examined using SPSS GRAPHS. All observed pairs appear to be linearly related, if at all. Transformations are not made to these scales because it is reasonable to expect these scales to be skewed in the population. Instead, the decision is made to use provisions in the EQS program to take the non-normality into account when assessing Chi-square
statistics. Therefore ML estimation with Satorra-Bentler Scaled Chi-square with adjustment to the standard errors was requested (Satorra & Bentler, 1988).

Next, the normality of the scales in the cross-Validation Sample were assessed through examination of histograms using SPSS DESCRIPTIVES and EQS and a summary descriptive statistics in EQS. Standardized scores (z scores) were used to assess normality. Due to the large sample size, a z score of 3.3 (p < .001, two-tailed test) was used as a criterion for significance of violation of assumptions. Eight of the ten scales were significantly skewed (absence of stress z = -12.86, absence of distress z = -13.85, SS Family z = -10.58, Agreeableness z = -11.45, Extraversion z = -4.24, Wisdom Insights z = -5.13, Wisdom Comfort with Self z = -9.16, and Emotional Intelligence z = -6.11). Multivariate normality was assessed using EQS in the section labeled MULTIVARIATE KURTOSIS, Mardia’s coefficient was 20.0792, and a normalized estimate coefficient was 22.2897. Multivariate Normality was not met.

Following the check for normality, linearity was assessed. It is not feasible to examine all pairwise scatterplots to assess linearity; therefore, randomly selected pairs of scatterplots are examined using SPSS
GRAPHS. All observed pairs appear to be linearly related, if at all. Transformations are not made to these scales because it is reasonable to expect these scales to be skewed in the population. Instead, the decision is made to use provisions in the EQS program to take the non-normality into account when assessing Chi-square statistics. Therefore ML estimation with Satorra-Bentler Scaled Chi-square with adjustment to the standard errors was requested (Satorra & Bentler, 1988).

Multicollinearity and Singularity. Lastly, multicollinearity and singularity were assessed for both samples. For the confirmatory factor sample the determinant of the matrix given in EQS is .20845D-06. This is much larger than 0; so there is no singularity. And for the cross-validation sample the determinant of the matrix given in EQS is .22654D-06. This is much larger than 0, so there is no singularity.
CHAPTER THREE

RESULTS

Presentation of the Findings

There were two models tested. The first model is the confirmatory factor analysis model, which is presented in Figure 1. The purpose of this model is to confirm the three hypothesized potential underlying constructs representing adaptation in midlife by examining the relationship between hypothesized indicators and the constructs. The second model is The Model of Midlife Adaptation, which is presented in Figure 2. The purpose of this model is to confirm a basic framework outlining coping processes by which midlife adults may use to approach changes that challenge them cognitively, physically, and emotionally; that will in turn lead to successful adaptation and ultimately successful midlife aging in a changing work environment.

The Confirmatory Factor Analysis Model

The confirmatory factor analysis (CFA) model consisting of a three factor model of Adaptation (Absence of Stress, Comparative Resources, and Successful Midlife Aging in a Changing Work Environment) was tested using EQS, based on random sample of a 961 middle age (40-65
yrs) respondents. Absence of Strain, Absence of Distress, and Absence of Role Conflict served as indicators of the Absence of stress factor. Support Systems Family, Agreeableness, and Extraversion served as indicators of the Comparative Resources factor. Lastly, Wisdom Insights, Wisdom Comfort with Self, Emotional Intelligence, and Adaptive Competence served as indicators of the Successful Midlife Aging in a Changing Work Environment factor. All factors are hypothesized to freely co-vary with one another.

Model Specification. The hypothesized CFA model (Figure 3) is overidentified. There are 20 regression coefficients, 2 co-variances, and 10 variances for a total of 32 parameters. There are 10 measured variables and therefore 55 data points.

Model Estimation Confirmatory Factor Analysis. ML estimation with Satorra-Bentler Scaled Chi-square was employed to estimate all models. The Robust independence model for the CFA that tests the hypothesis that all variables are uncorrelated was easily rejectable, $\chi^2(45, N = 961) = 1915.023, p < .01$. The hypothesized CFA model was tested next and little support was found for the hypothesized model, based on Satorra-Bentler Scaled $\chi^2(32, N = 961) = 189.0079, p < .001$. However, marginal
support was found for the hypothesized model in terms of the comparative fit index (CFI) = .916 and root mean-squared error of approximation (RMSEA) = .071.

Model Modification. After finding marginal evidence that the CFA model fit the data, Post Hoc model modifications were performed in an attempt to develop a better fitting model. On the basis of the multivariate Lagrange multiplier test and theoretical relevance, four paths were added.

First, the multivariate LM test suggests that adding a path predicting Adaptive Competence (E10) from Wisdom Insights (E7) would significantly improve the model. This is a reasonable parameter to add, since both are types of learning processes or experiences. Therefore it was added to the model and the model was re-estimated, Satorra-Bentler $\chi^2 (31, N = 961) = 161.88, p < .001, (CFI) = .930, (RMSEA) = .066$. A Chi-Square Difference Test with a Satorra-Bentler adjustment indicated that the model was significantly improved by the addition of this path, $\chi^2_{diff}(1, N = 961) = 26.47, p < .01$.

Second, the multivariate LM test suggests that adding a path predicting Extraversion (E6) from Support System Family (E4) would significantly improve the model. This is a reasonable parameter to add. It may be that those
individuals with an extraverted personality (outgoing, friendly, lively, active, and talkative) are more easily able to find and receive the benefit of family support systems. Therefore the path was added and the model was re-estimated, Satorra-Bentler $\chi^2 (30, N = 961) = 142.66$, $p < .001$, (CFI) = .940, (RMSEA) = .063. A Chi-Square Difference Test with a Satorra-Bentler adjustment indicated that the model was significantly improved by the addition of this path, $\chi^2_{diff}(1, N = 961) = 18.17$, $p < .01$.

Third, the multivariate LM test suggests that adding a path predicting Wisdom Insights (E7) from absence of Distress (E2) would significantly improve the model. This is a reasonable parameter to add. It may be that those who have high levels of wisdom insights, meaning those individuals that have fully let go of the old youthful self and accepted the changes of aging may report less distress, such as feeling sad, hopeless, and worthless. The path was added and the model was re-estimated, Satorra-Bentler $\chi^2 (29, N = 961) = 132.37$, $p < .001$, (CFI) = .945, (RMSEA) = .061. A Chi-Square Difference Test with a Satorra-Bentler adjustment indicated that the model
Table 5. Summary of the Paths Added Based on the Multivariate Lagrange Multiplier Test and Chi-Squared Difference Tests Using a Satorra-Bentler Adjustment

<table>
<thead>
<tr>
<th>Model</th>
<th>Hypothesized CFA Model</th>
<th>Path added-Residual covariance</th>
<th>Model</th>
<th>Path added-Residual covariance</th>
<th>Model</th>
<th>Path added-Residual covariance</th>
<th>Model</th>
<th>Path added-Residual covariance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>Hypothesized CFA Model</td>
<td>189.0079 32 .916</td>
<td>Model 2</td>
<td>Path added-Residual covariance between Adaptive Competence (E10) and Wisdom Insights (E7)</td>
<td>161.8874 31 .930 M1-M2 = 26.47</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 3</td>
<td>Path added-Residual covariance between Extraversion (E6) and Support System Family (E4)</td>
<td>142.6615 30 .940 M2-M3 = 18.17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 4</td>
<td>Path added-Residual covariance between Wisdom Insights (E7) and Absence of Distress (E2)</td>
<td>132.3719 29 .945 M3-M4 = 10.20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 5</td>
<td>Path added-Residual covariance between Adaptive Competence (E10) and Emotional Intelligence (E9)</td>
<td>119.6812 28 .951 M4-M5 = 11.45</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 4. The Final Confirmatory Factor Analysis Model with Modifications in Standardized Form and Significance Indicated (*)
Cross Validation Model. Because post hoc model modifications were performed and may have capitalized on chance, a cross validation was performed. The final confirmatory Factor Analysis model with modifications tested with the randomized sample of 961 above was cross validated using the SEM sample of 1183. The models fit, $\chi^2 (28, N = 1183) = 166.0950$, $p < .001$, CFI = .941 and root mean-squared error of approximation (RMSEA) = .065. Although the models fit did change slightly, the indices still seem to indicate a good-fitting model. In addition, the relative size of the parameters estimates hardly changed between the Final CFA Model and cross validated model, indicating the models are highly related to each other. The cross validation model in shown in Figure 5. The parameter estimates from the randomized sample of 961 are shown without parentheses and the parameter estimates from the cross-validation sample of 1183 is shown in parentheses. All significant coefficients are in standardized form.
Figure 5. A Cross Validation of the Final Confirmatory Factor Analysis Model Using A New Sample

The Structural Equation Model

A Successful Midlife Aging SEM model was tested after the CFA and cross-validation was performed. The SEM model
was tested using the sample of a 1,183 middle age (40-65 yrs) respondents used in the cross-validation. The hypothesized SEM Model of Adaptation is shown in Figure 6 (indicators and added modifications are not shown for simplicity). The first hypothesized relationship is absence of stress would predict successful midlife aging in a changing work environment. The second hypothesis is there is covariance between the comparative resources factor and absence of stress factor. The third hypothesized relationship is comparative resources would predict successful midlife aging in a changing work environment.

Model Identification. The hypothesized structural Equation model is overidentified. There are 10 regression coefficients, 4 co-variances, and 11 variances for a total of 25 parameters. There are 10 measured variables and therefore 55 data points (see APPENDIX D HYPOTHESIZED STRUCTURAL EQUATION MODEL used for model specification which includes all estimated parameters identified).
Successful Midlife Aging in a Changing Work Environment
F3

*  

Absence of Stress F1

*  

Comparative Resources F2

Figure 6. Hypothesized Structural Equation Model of Midlife Adaptation

Model Estimation Structural Equation Model. ML estimation with Satorra-Bentler Scaled Chi-square was employed to estimate all models. The independence model for the SEM that tests the hypothesis that all variables are uncorrelated was easily rejectable,
χ² (45, N = 1197) = 3414.66, p < .01. The hypothesized SEM model was tested next and support was found for the hypothesized model, based on Satorra-Bentler Scaled χ² (28, N = 1183) = 166.0744, p < .001, comparative fit index (CFI) = .941 and root mean-squared error of approximation (RMSEA) = .065. Ideally, a nonsignificant chi-square is desired. In this analysis the model is significant, but the indices all seem to indicate a good-fitting model.

Post hoc model modifications were not performed on the basis there were no paths to add based on the Lagrange Multiplier Test that made theoretical or logical sense that would significantly increase the models fit. The Final SEM model with standardized coefficients (with significance indicated) is shown in Figure 7 (indicators and added modifications are not shown for simplicity).

Direct Effects. First, Absence of Stress did predict Successful Midlife Aging in a Changing Work Environment (standardized coefficient = .294). Second, Comparative Resources and Absence of Stress were significantly positively correlated (standardized coefficient = .398), as the more comparative resources an individual in midlife accumulated the more absence of stress was seen. Third, Comparative Resources did predict Successful Midlife Aging
in a Changing Work Environment (standardized coefficient = .589).

Proportion of Variance. For further interpretation of the model, the variance in each variable accounted for by each of the hypothesized factors was investigated. The portion of variance equation $R^2_j = 1-D^2_j$ (Ullman, 2001) was used to examine the R-SQUARED column in the STANDARDIZED SOLUTION section in the EQS print-out for each construct. For the absence of Stress construct, absence of strain accounts for 34% of the variance, the absence of distress accounts for 77% of the variance, and the absence of role conflict accounts for 16% of the variance. For the comparative resources variable, the family support factor accounts for 28% of the variance, the extraversion personality factor accounts for 68% of the variance, and the agreeableness factor accounts for 41% of the variance. Lastly, for the successful midlife aging in a changing work environment variable, the wisdom insights factor accounts for 19% of the variance, the wisdom comfort with self factor accounts for 43% of the variance, the emotional intelligence factor accounts for 45% of the variance, and the adaptive competence factor accounts for 32% of the variance.
Successful Midlife Aging in a Changing Work Environment F3

Absence of Stress F1

Comparative Resources F2

.294*  .589*

.398*

Figure 7. The Final Structural Equation Model of Midlife Adaptation with Significant (*) Coefficients Presented in Standardized Form
CHAPTER FOUR

DISCUSSION

Discussion of Findings

The present study’s focus included a systematic examination of the work adaptation process, which consisted of identifying the characteristics of the workforce that are predominantly being affecting by the current changes in the workplace, identification of the specific changes, and how these changes are affecting the workers of today. Once key elements of the current work context were identified, they were then used to test adaptation theories of the past that take into account the possible coping strategies that could be applied to work adaptation; which would provide clarification and direction for how today’s workers would adapt successfully to the current changes, in contrast to leaving the workforce.

After examining the current workforce demographics, it was identified that workers in their midlives are the majority of workers in which these changes in the workplaces are affecting. Upon further examination, it was established that midlife workers face different adaptation challenges and have unique needs, work values,
responsibilities, and work experiences, in contrast to other age groups (Lachman & Bertrand, 2001; Lachman et al., 1994; Moen & Wethington, 1999; Smith & Baltes, 1999; Sterns & Huyck, 2001). For midlife workers there are many important changes in the personal and work life domains occurring at this time in history and this time of their life, which include changing social relationships, evolving identity, sociocultural influences, awareness of finitude of lifetime, common biological life events, changing job characteristics, changing job requirements, changing work climate, and changing worker characteristics.

Thus, there are interlocking and concurrent changes in both life domains that present a challenge to midlife workers and may create a context for negative outcomes. Research has found that the prolonged expose to the external demands, such as changes in life domains, produces the accumulated negative effects displayed as physiological, biological, physical, and inter-personal reactions (Aldwin & Levenson, 2001; Magai & Halpern, 2001; Rosenberg, Rosenberg, & Farrell, 1999). Based on a contextual analysis of midlife, it is clear that midlife workers are and will continue to be exposed to some external demands in the current context that have the
potential to render them more susceptible to detrimental effects stress, such as strain, distress, and role conflict. This means, there is an increasing need to look at the extent to which midlife individuals will be able to easily cope with the current negative context in which they are exposed to as a result of the changes occurring in both life domains.

In order to provide more clarification and a direction on this matter, a SEM model of midlife adaptation was constructed to depict a basic framework outlining coping processes by which midlife adults may use to approach changes that challenge them cognitively, physically, and emotionally; this basic framework will provide clarification and direction needed to establish the extent these workers will be able to produced by the current changes and thus successfully age in the changing work environment, in contrast to leaving it. The model was used to test the fit with the preexisting data from the Midlife in the United States (MIDUS) survey that was collected by the John D. and Catherine T. MacArthur Foundation Research Network on Successful Midlife Development (MIDMAC). It was found that the model had a good fit, producing an estimated population covariance matrix that is consistent with the sample (MIDUS)
covariance matrix. Meaning, the relationships that are hypothesized in the model, fit (closely related to) the relationships that are occurring in the preexisting MIDUS sample; which, in turn allows for further examination of specific aspects or hypothesized relationships of the model.

The examination of the specific hypothesized relationships within the SEM model does provide clarification and direction on the extent to which midlife individuals will be able to easily cope with the current negative context in which they are exposed to as a result of the changes occurring in both life domains. First, as hypothesized, absence of stress predicted successful midlife aging in a changing work environment. Meaning that the absence of stress factor (measured by three indicators: absence of strain, absence of distress, and absence of role conflict) is driving the successful midlife aging in a changing work environment factor (measured by four indicators: wisdom insights, wisdom comfort with self, emotional intelligence, and adaptive competence). Therefore, for every one unit absence of stress factor increases the successful midlife aging in a changing work environment factor increases.
This finding confirms the underlying assumption that without changes, negative outcomes would not be produced; and accordingly an absence of stress would manifest, thus creating a positive context free from a need for adaptation. As result there would be no need to look at coping processes that focus on ones ability to create a complimentary, reciprocal, and closer “fit” between him/herself and his/her environment, either by adjusting or modifying him/herself or surroundings. A context free from stress would be an ideal situation eliminating the need for adaptation in midlife.

However, the basic premise of this study is that as the world changes, so must everything around it change, including midlife workers. As shown earlier in the paper, midlife individuals and the environment are drastically changing at this time. There are many interlocking and concurrent changes in both life domains that are going to present a challenge to midlife workers and have the potential to create a context for negative outcomes or consequences in the form of stress. According Aldwin and Levenson (2001) it is normatively anticipated that midlife individuals will be exposed to some stress which will render them more susceptible to detrimental effects in the form of strain, distress, and role conflict; and for that
reason, there is an increasing need for midlife individuals to be able to easily change their adaptive process to cope with challenges and responsibilities of midlife, and thus become accustomed to the changes that are occurring in their life at this time.

This finding is consistent with Witbourne’s (1996) theory of identity in the aging process. Whitbourne (1996) states that adult aging and development is shaped by an individual’s sense of self over time. The way an individual experiences identity relevant experiences is based on coping processes of assimilation and accommodation. The process of identity assimilation involves a refusal to acknowledge changes in self or environment when confronted with such identity relevant experiences. Thus, the individual creates a context free of any negative effects the individual perceives will be created by acknowledging the changes. It has been found that individuals who choose to use the coping process of assimilation are successful in adapting to life changes without creating a complimentary, reciprocal, and closer “fit” between him/herself and his/her environment, either by adjusting or modifying him/herself or surroundings. This coping strategy supports the hypothesis that an absence of stress will predict successful midlife aging.
However, Witbourne (1996) has found that assimilation is only a temporary coping process; due to the fact that it becomes less effective over time because sooner or later the individual will be no longer able to ignore the signs, resulting in problematic emotional outcomes.

Witbourne (1996) theory is consistent with this study’s basic premise, and therefore supports the need for midlife individuals to be able to easily change their adaptive process to cope with challenges and responsibilities of midlife in contrast to ignoring it, and thus become accustomed to the changes that are occurring in their life at this time. For this reason Whitbourne (1996) presented another coping strategy, called accommodation. The process of identity accommodation is the opposite to assimilation, which involves changes in the self or environment in response to identity relevant experiences. This process is more congruent with the study’s basic premise of change, that it is inevitable and when it occurs the individual acknowledges the changes and copes accordingly (creates a complimentary, reciprocal, and closer “fit” between him/herself and his/her environment) in order to successfully adapt. In light of the fact that it is normatively anticipated that some serious challenges will
occur in midlife, resulting in some negative outcomes and consequences, then coping processes by which midlife adults use to approach changes that challenge them cognitively, physically, and emotionally is needed, which is addressed in the remaining hypotheses.

Second, as hypothesized, there was a positive relationship between absence of stress and comparative resources; meaning that as comparative resources factor (measured by indicators: family support systems, agreeable personality, and extraverted personality) increases, the positive outcomes factor increases (measured by three indicators: absence of stress, absence of distress, and absence of role conflict). As it has previously been shown the nature and quality of support systems are known to influence well-being at midlife (Ryff, 1997). Therefore, this finding increases awareness that comparative resources are critical factors in reducing the negative outcomes which can be produced by the challenges and responsibilities of this period of life and period of time. The more comparative resources an individual in midlife has accumulated and employs will neutralize the effects of negative outcomes, thus increasing the opportunity of a context absent from stress (Antonucci et al., 2001). It is the combination of the first two
findings that provide some much needed clarity and direction to how the midlife workers are going to adapt to the changing context they find themselves in.

Hence, the findings are indicating that it is the extent midlife workers utilize their own inner resources and outer resources that they will be more able to create a positive life context, void of stress, displayed as strain, distress, and role-conflict. The combination of findings implies comparative resources are a significant factor to add to midlife work adaptation process. This claim is supported by the results of the third hypothesis, specifically, the employment of comparative resources did predict successful midlife aging in a changing work environment. Meaning that comparative resources factor (measured by indicators: family support systems, agreeable personality, and extraverted personality) is driving the successful midlife aging in a changing work environment factor (measured by four indicators: wisdom insights, wisdom comfort with self, emotional intelligence, and adaptive competence). Therefore, for every one unit comparative resources factor increases successful midlife aging in a changing work environment factor increases.

In addition to the examination of the hypothesized relationships of the model, portion of variance was also
examined. The examination of variance does provide an inference to the driving factors behind the findings of the model. For the absence of stress construct, absence of distress accounted for the most variance. This examination of variance lends to the notion of the midlife crisis, and although this theory or myth of midlife has not found empirical support, it still seems to surface as a realistic symbol of what midlife is, and that is time of loss resulting from a dramatic change in all aspects of life that surfaces as distress.

For the comparative resources construct, extraverted personality accounted for the most variance. This finding supports past theory that personality is likely to be the driving force behind the experience and resolution of the challenges in midlife (Costa & McCrae, 1980; Jung, 1933; Lachman & Bertrand, 2001). Lastly, for the successful midlife aging in a changing work environment construct, all factors except for wisdom insights accounted for around the same amount of variance, indicating that these factors may be the criterion that best represents successful midlife aging construct. Due to the fact that past literature sources regarding successful aging have been ambiguous in the guidance it provides researchers
interested in successful aging, and more specifically successful midlife aging, this finding is refreshing.

In summary, the combination of the findings provide clarification and direction on the extent to which midlife individuals will be able to easily cope with the current negative context in which they are exposed to as a result of the changes occurring in both life domains. Based on a contextual analysis of midlife, it is clear that midlife workers are and will continue to be exposed to some demands in the current context that have the potential to render them more susceptible to detrimental effects of stress such as strain, distress, and role conflict. The findings are indicating that it is the extent midlife workers utilize their own inner resources and outer resources that they will be more able to create a positive life context, void of negative outcomes such as strain, distress, and role-conflict, and successful aging in a changing work environment in midlife.

Implications of Findings

The findings of this study are relevant to both applied and academic arenas. From an applied perspective, the findings provide those practitioners in the field guidance in the creation of tactics or initiatives that will place organizations in a position to effectively meet
the tremendous shifts occurring in work demographics and work environment at this time, namely the large number of midlife individuals participating in the workforce today and the decrease in younger skilled individuals entering the workforce.

The findings of this study suggest to practitioners in the field (whether, internal or external consultants) that they need to focus on altering or changing the external resources, as well as, focusing on developing individuals internal resources within organizations. This calls for an increased investment by employers and increased push by practitioners for employee training and development programs, job design and organization development initiatives, as well as special programs such as stress management programs, wellness programs, mentoring programs, and employee assistance programs.

Employee training and development programs and organization development initiatives are not new in the world of business. They are currently occurring throughout the world, but the rate and frequencies of these programs and initiatives are varied throughout organizations due to cost, time and commitment, and old ways of thinking (Beer, 1980; Collarelli, 1998; Kanter, 1991; Smith, 1998). Therefore, in order to maximize the findings of this
study, practitioners' focus should include the simultaneous change of both external and internal resources and increased focus on the creation or addition of support systems within organizations.

The findings of this study promote the need for increased commitment to changing the work environment at the same time the workers themselves are being changed. However, in the past, it was suggested that practitioners should only focus on changing one or the other (Muchinsky, 2000). It is believed to be unrealistic to try to change both. No guidance has been provided to which side deserves more attention, and it is left to professional judgment of the practitioner, based on the experience with the organization. However, these findings support the implementation and focus on both in tandem.

From an academic perspective, the findings provide researchers a unified framework in which to study the area of adaptation in midlife today. By creating a holistic model of adaptation that takes into account past adaptation strategies that could be utilized in midlife and empirically testing the validity of such strategies with a well recognized data set, provides much needed clarification in the area of successful midlife aging and adaptation in a changing work environment. In addition, by
focusing on and encompassing the broader context in which midlife workers find themselves today, provides a refreshing picture of the challenges and responsibilities of midlife today, and helps to identifying indicators of successful midlife aging.

Clarification needs to be made that these findings are by no means the answers or solutions to deal with the tremendous shifts occurring in work demographics at this time. They are, however, a direction in which to move forward in our understanding of the period of life labeled "midlife" and the process of work adaptation and aging in the rapidly and ever changing environment of work. It is a great foundation from which many other studies can be generated (Please see future research and recommendations below).

Methodological Issues and Limitations

Although the results do support the hypotheses, several limitations need to be discussed before generalizing these findings. The limitation, was that there may be potential problems with using an EFA factor analytic method to create the scales used in this study. A PCA with varimax rotation was used to create the scales used in this study, which is not usually recommended. The major uses of EFA factor analytic methods in psychology
are in development tests, and are seen more as exploratory or fist guesses and associated with sloppy research. The specific goal is to reduce a large number of observed variables to a smaller number of factors that are thought to reflect underlying processes that have created the correlations among variables. This method is often described as creating apparent order from real chaos. In addition, EFA factor analytic methods are very sensitive to the sizes of correlations, outlying cases, problems created by missing data, and poorly distributed variables, which could cause correlation coefficients to be less reliable and more degraded.

In contrast, a more recommended approach would be the use of confirmatory analytic methods, which are much more sophisticated technique used in the advanced stages of research process to test a theory about latent processes. Variables are specifically and carefully chosen to reveal underlying processes. The advantage of confirmatory methods is when relationships among factors are examined, the relationships are free of measurement error and complex relationships can be examined.

Despite the known problems and criticisms with EFA factor analytic methods, a PCA with varimax rotation was used to create the scales used in this study for the
following reasons. The study utilized an archival data source in which multiple items had to be combined to create each scale. Which meant, I had to devise research questions that could be addressed by the data available. In a sense, available items dictated what was and was not possible research questions to ask. Thus, unlike in primary research where questions are formed and items are constructed, in this case scales had to be formed based on previously constructed items. Therefore, my goal was to reduce a large number of items to a smaller number of factors, which I believed to represent underlying processes (variables).

Second limitation, in the process of assessing the fit of the model, four modifications were added to create a more harmonious model. The first, LM test suggested that a path predicting Adaptive Competence (E10) from Wisdom Insights (E7) would significantly improve the model and as it was shown in Table 5 it did. It does make sense that individuals in midlife with low wisdom insights (meaning they have not accepted the changes that have occurred in their life and are still holding on to unrealistic beliefs of themselves) have less adaptive competence (meaning they have less capacity to react or respond adaptively to those changes that arise in their life). The second, LM test
suggested that a path predicting Extraversion (E6) from Support System Family (E4) would significantly improve the model and as it was shown in Table 5 it did. It does seem plausible that those individuals in midlife with an extraverted personality (characterized by being more outgoing, friendly, lively, active, and talkative) are more easily able to find and receive the benefit of family support systems (someone to talk to, opening up to others, others understanding the way they feel, and asking for help). The third, LM test suggested that a path predicting Wisdom Insights (E7) from absence of Distress (E2) would significantly improve the model and as it was shown in Table 5 it did. It does seem likely that an individual in midlife with high wisdom insight (meaning that they understand the process by which they became the person they are and thus are more satisfied with who they have become) will report more absence of distress (cheerful, good spirits, extremely happy, calm and peaceful, satisfied, and full of life). Finally, a LM test suggested that a path predicting Adaptive Competence (E10) from Emotional Intelligence (E9) would significantly improve the model and as it was shown in Table 5 it did. It is reasonable that an individual in midlife with high wisdom insights (ability to motivate oneself to persist and find
the positive in a difficult or challenging circumstance or situation) may demonstrate high adaptive competence (a generalized capacity to respond with resilience to challenges arising from one's body, mind, and environment).

Although these relationships were not specified in the study's "theory" and are supposed to be uncorrelated, they were supported by the data. Correlated errors are generally cautiously considered as a final step when adding parameters because these errors are essentially covarying the parts of the indicators (measured variables) that are not common to the factor (construct). However, upon examination, they do make theoretical sense, and add to the other findings in the study, but should be noted.

A third limitation was that although there are many advantages to using archival data, there are also limitations. First of all, archival data is never precisely what one wants or expects. Given this reality, I was challenged to do what was possible, given time and resources, in shaping the data according to needs of this study. Two, the data at hand reflects the perspectives and preferences of the original investigators, especially the data collection procedures and data entry. The limitations of this study stemmed from these two well-known facts.
about archival data. Limitations of this study included coding issues, missing data, limited response categories, imprecise items, and older data.

Coding became a tedious and time-consuming hurdle. Due to the fact that the original data was entered using another statistical program (original investigators preference). Importing the data into SPSS caused a loss of all coding and descriptions of items. Therefore, in order to run my analyses I had to go back and recode all the data and rewrite item descriptions. This is a limitation based on the fact that there were so many items to recode that there was a chance for error.

In addition, missing data became a problem throughout the study. Due to the fact that there were no existing scales available that fit my hypotheses, the creation of scales was a must. However, by combining multiple items to create scales it amplified the amount of missing data present from 10% for individual items to 76.3% for some scales. Estimating that large of a percentage of data can call into questions concerning the results found and generalizability of the results.

Another problem stemming from combining items to create scales is item comparability. By combining items with different response categories to create scales it
raises a potential problem of item comparability. A problem occurs when roughly comparable items have unequal number of response categories are combined and when response categories are collapsed to make the number of categories equal. By combining items of unequal categories and collapsing categories, it may yield results that differ from the original items. It also causes difficulty in interpretation of results.

As a researcher using archival data I want to maximize the fit between my research questions and the available data at hand. Although one of the most appropriate existing data sets was chosen for this study, there were still limitations in the questions that could be addressed based on the items available. The challenge of this study was to devise research questions that could be addressed by the data available. In a sense, available items dictated what was and was not possible research questions to ask. Thus, unlike in primary research where questions are formed and items are constructed, in this case questions had to be formed based on already constructed items.

Lastly, the age of the data and the population used in this study to some extend restricts generalizability. Due to the fact that the work environment is changing at
such a rapid pace, changes that occurred in 1995 could differ from those a decade later in 2004. However, based on the information available regarding the changes that have occurred and are occurring (covered in the introduction) it seems that the differences are trivial, and therefore would not limit the generalizability. Overall, it would be beneficial to test the models again using a more current sample and comparing results. Another restriction could come from the population sampled. Despite the sample being quite large and relatively diverse, there was still an over sampling of the white population. There could be enough differences to warrant a need for future studies.

Future Research and Recommendations

Concerning the findings of this study, it needs to be highlighted that based on the limitations of the study and the age of the data set, these findings should only be considered as a foundation for further study. The next step to take would be to test the model using a current sample of individuals in midlife, to confirm the results found in this study. If confirmed, the next step would be to add psychometrically sound measures of positive outcomes, employment of comparative resources and successful midlife aging. What was observed in this study
due to limitations was a small picture of what occurs in midlife.

For one, the number of negative outcomes that can be produced by the challenges and responsibilities of midlife and this period of time was limited. Strain, distress, and role conflict, are important effects of stress, however are only a fragment of the negative outcomes in midlife produced by the many challenges and responsibilities describe. Past literature suggests that there are other negative outcomes such as, accelerated aging, persistent worrying, lack of control, and decrease in work commitment can be created from the challenges and responsibilities of midlife (Adams, 1999; Heckhausen, 2001; Jere, 1994; Lachman & Bertrand, 2001; Merrill & Verbrugge, 1999; Whitbourne, 2001).

Secondly, the number of comparative resources available to those in midlife was restricted too. In this study three resources were examined due to limitations discussed previously. It has been found that other resources are available and can provide the same benefit. Those comparative resources are: support from spouse, other dimensions of personality (conscientiousness, neuroticism, and open to experience), socioeconomic status, and healthy life style choices and healthcare
opportunities (Antonucci et al., 2001; Costa & McCrae, 1980; Lachman & Bertrand, 2001; Lachman, Lewkowicz, et al., 1994; Merrill & Verbugge, 1999; Roberts & Delvecchio, 2000; Ryff, 1997).

Lastly, indicators of successful midlife aging in a changing work environment could be expanded further. The multitude of past research, in general, has been exploratory ventures for the criteria of successful aging. This made it even more difficult for me to define what successful midlife aging was in this study. Therefore, it was my objective to clearly identify criteria that best represents the outcome received if an individual is successful in adapting to the unique challenges and responsibilities of midlife and this period of time. In my effort to do so, I ran into limitations with the data that did not allow me to fully examine all my hypothesized indicators of successful midlife aging. I believe there to be other indicators of successful midlife aging based on evidence from past research attempts. They are as follows: wisdom satisfaction, psychological well-being, emotional intelligence relationships, and adaptive competence planning ahead (Aldwin & Levenson, 2001; Featherman et al., 1990; Keyes & Ryff, 1998; McAdams, 2001; Richards & Gross, 2000; Salovey & Mayer, 1990).
In summary, the next step to understanding successful midlife aging in a changing work environment would be to test the current model using an up-to-date sample of individuals in midlife, to confirm the results found in this study. If confirmed, the next step would be to create psychometrically sound measures of all variables outlined above and modify the current model to accommodate new indicators, then test the modified model with a current sample of midlife individuals to determine if the findings of this study still hold true. If confirmed, it would be beneficial to run a cross-sectional design that compares younger, midlife, and older workers to examine whether there are true differences in demand and challenges in today work and life context, based on age differences. Also, it may benefit this line of research to look at age groups within midlife, such as younger midlife, middle, and older midlife age groups, to highlight any difference there may be in the types and amounts of demands that are being placed.

Overall, if individuals in their midlives characterize the workforce of today and are the older workers of tomorrow, it is imperative that researchers investigate and understand how the changes in the work environment discussed earlier are impacting individuals in
their midlives. Although adaptation is not a new demand placed on workers in the workplace, it is the extent to which midlife workers are able to successfully adapt to these rapidly evolving workplaces. As noted the workplace have undergone a considerable redefinition of work and created a new set of rules and standards for how work is done in the American workplace (Challenger, 2001; Ilgen, 1994). As a result, demands are and will continue to place demands on the worker to constantly adapt to these changes or leave the workforce.
APPENDIX A

SUMMARY OF HYPOTHESES
Hypothesis One
Absence of stress will predict successful midlife aging in a changing work environment as depicted in Figure 2.

Hypothesis Two
There will be a positive relationship between absence of stress and comparative resources. That is, the more comparative resources an individual in midlife accumulates the more absence of stress will be seen as depicted in Figure 2.

Hypothesis Three
Comparative resources will predict successful midlife aging in a changing work environment, as depicted in Figure 2.
APPENDIX B

SCALE CREATION
Results of Ten Separate Principle Component Factor Extractions to Create Scales Used in the Main Analyses

<table>
<thead>
<tr>
<th>Scale</th>
<th>Communalities</th>
<th>% of variance Accounted by Factor</th>
<th>Factor Loadings</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence of Stress</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absence of Strain</td>
<td>.336-.732</td>
<td>37.9%</td>
<td>.53-.74</td>
<td>.773</td>
</tr>
<tr>
<td>Absence of Distress</td>
<td>.639-.791</td>
<td>57.9%</td>
<td>.68-.82</td>
<td>.915</td>
</tr>
<tr>
<td>Absence of Role Conflict</td>
<td>.388-.659</td>
<td>42.3%</td>
<td>.45-.79</td>
<td>.858</td>
</tr>
<tr>
<td>Comparative Resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support System Family</td>
<td>.610-.756</td>
<td>47.4%</td>
<td>.58-.78</td>
<td>.836</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.610-.756</td>
<td>56.8%</td>
<td>.67-.83</td>
<td>.803</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.416-.654</td>
<td>54.2%</td>
<td>.65-.81</td>
<td>.781</td>
</tr>
<tr>
<td>Successful Midlife Aging in a Changing Work Environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wisdom Insights</td>
<td>.710</td>
<td>71.0%</td>
<td>.84</td>
<td>.590</td>
</tr>
<tr>
<td>Wisdom Comfort with Self</td>
<td>.410-.509</td>
<td>46.6%</td>
<td>.64-.71</td>
<td>.614</td>
</tr>
<tr>
<td>Emotional Intelligence</td>
<td>.457-.581</td>
<td>50.4%</td>
<td>.68-.76</td>
<td>.663</td>
</tr>
<tr>
<td>Adaptive Competence</td>
<td>.260-.627</td>
<td>47.2%</td>
<td>.51-.79</td>
<td>.770</td>
</tr>
</tbody>
</table>
APPENDIX C

INDIVIDUAL ITEMS FOR EACH SCALE
Absence of Stress

Absence of Strain
1. During the past 30 days, how often have you experienced headaches. (SA12A)
   1  almost every day
   2  several x/week
   3  once a week
   4  several x/month
   5  once a month
   6  not at all
   (questions 2-6 will use response categories from question 1)
2. During the past 30 days, how often have you experienced lower backaches. (SA12B)
3. During the past 30 days, how often have you experienced sweating a lot. (SA12C)
4. During the past 30 days, how often have you experienced irritability. (SA12D)
5. During the past 30 days, how often have you experienced hot flashes or flashes. (SA12E)
6. During the past 30 days, how often have you experienced aches or stiffness in joints. (SA12F)
7. During the past 30 days, how often have you experienced trouble getting to sleep or falling asleep. (SA12G)
8. During the past 30 days, how much time did you feel nervous? (SA13B)
   1  All the time
   2  Most of the time
   3  Some of the time
   4  A little of the time
   5  None of the time
   (questions 9 will use response categories from question 8)
9. During the past 30 days, how much time did you feel restless or fidgety? (SA13C)

Absence of Distress
1. During the past 30 days, how much of the time did you feel so sad nothing could cheer you up? (SA13A)
   1  all the time
   2  most of the time
   3  some of the time
   4  a little of the time
5 none of the time

(questions 2-10 will use response categories from question 1)

2. During the past 30 days, how much of the time did you feel hopeless? (SA13D)
3. During the past 30 days, how much of the time did you feel that everything was an effort? (SA13E)
4. During the past 30 days, how much of the time did you feel worthless? (SA13F)
5. During the past 30 days, how much of the time did you feel cheerful? (SA15A)(Reverse)
6. During the past 30 days, how much of the time did you feel in good spirits? (SA15B) (Reverse)
7. During the past 30 days, how much of the time did you feel extremely happy? (SA15C) (Reverse)
8. During the past 30 days, how much of the time did you feel calm and peaceful? (SA15D) (Reverse)
9. During the past 30 days, how much of the time did you feel satisfied? (SA15E) (Reverse)
10. During the past 30 days, how much of the time did you feel full of life? (SA15F) (Reverse)

Absence of Role Conflict

1. How often have you experienced- your job reduces the effort you can give to activities at home. (S127A)
   1 All the time
   2 Most of the time
   3 sometimes
   4 rarely
   5 never

(questions 2-11 will use response categories from question 1)

2. How often have you experienced- stress at work makes you irritable at home (S127B)
3. How often have you experienced- your job makes you feel too tired to do things that need attention at home. (S127C)
4. How often have you experienced- job worries or problems distract you when you are at home (S127D)
5. How often have you experienced- responsibilities at home reduce the effort you can devote to your job (S127I)
6. How often have you experienced—Personal or family worries and problems distract you when you are at work (S127J)
7. How often have you experienced—Activities and chores at home prevent you from getting the amount of sleep you need to do your job well. (S127K)
8. How often have you experienced—Stress at home makes you irritable at work (S127L)
9. How often do different people or groups at work demand things from you that you think are hard to combine? (S128J)
10. At your job, how often have you had too many demands made on you? (S129A)
11. At home, how often do you have too many demands made on you? (S132A)

Comparative Resources

Support Systems

Family
1. Not including your spouse or partner, how much do members of your family really care about you? (SM2) (reverse)
   1 A lot
   2 Some
   3 A little
   4 Not at all
   (questions 2-11 will use the same response categories from question 1)
2. How much do they understand the way you feel about things? (SM3) (reverse)
3. How much can you rely on them for help if you have a serious problem? (SM4) (reverse)
4. How much can you open up to them if you need to talk about your worries? (SM5) (reverse)
5. How much do your friends really care about you? (SM11) (reverse)
6. How much do they understand the way you feel about things? (SM12) (reverse)
7. How much do you rely on them for help if you have serious problem? (SM13) (reverse)
8. How much can you open up to them if you need to talk about your worries? (SM14) (reverse)
Personality

Agreeableness
1. Please tell me how much each of the following describes you, Helpful? (SF4B) (reverse)
   1 A lot
   2 Somewhat
   3 A little
   4 Not at all
   (questions 2-25 will use response categories from question 1)
2. Warm? (SF4G) (reverse)
3. Caring? (SF4L) (reverse)
4. Softhearted? (SF4R) (reverse)
5. Sympathetic (SF4Z) (reverse)

Extraversion
6. Outgoing? (SF4A) (reverse)
7. Friendly? (SF4F) (reverse)
8. Lively? (SF4K) (reverse)
9. Active? (SF4W) (reverse)
10. Talkative? (SF4AA) (reverse)

Successful Midlife Aging in a Changing Work Environment

Wisdom

Insights
1. Making sense of my past helps me figure out what to do in the future. (SF3V) (reverse)
   1 agree strongly
   2 agree some
   3 agree a little
   4 don’t know
   5 disagree a little
   6 disagree some
   7 disagree strongly
   (question 2 will use response categories from question 1)
2. I have had new insights into the way things have turned out (SF3DD) (reverse)
Comfort with Self
1. I like most parts of my personality (SF1Arecode) (reverse)
   1 agree strongly
   2 agree some
   3 agree a little
   4 don't know
   5 disagree a little
   6 disagree some
   7 disagree strongly
   (questions 2-4 will use response categories from question 1)
2. When I look at the story of my life, I am pleased with how things have turned out so far (SF1Brecode) (reverse)
3. Some people wander aimlessly through life, but I am not one of them (SF1Crecode) (reverse)
4. For me, life has been a continuous process of learning, changing, and growth. (SF1Krecode) (reverse)

Emotional Intelligence
1. When faced with a bad situation, I do what I can to change it for the better (SF3B) (reverse)
   1 A lot
   2 Some
   3 A little
   4 Not at all
   (questions 2-4 will use response categories from question 1)
2. I find I usually learn something meaningful from a difficult situation (SF3E) (reverse)
3. Even when I feel I have too much to do, I find a way to get it all done. (SF3G) (reverse)
4. I rarely give up on something I am doing, even when things get tough. (SF3K) (reverse)

Adaptive Competence

Problem Solving
1. When I encounter problems, I don't give up until I solve them (SF3J) (Reverse)
   1 A lot
   2 Some
   3 A little
   4 Not at all
(questions 2-6 will use response categories from question 1)

2. I like to make plans for the future (SF30) (reverse)

3. I can head off a bad situation before it happens (SF3R) (reverse)

4. I can sense when a opportunity is coming my way (SF3S) (reverse)

5. I am good at predicting what is going to happen to me (SF3Z) (reverse)

6. I am good at figuring out how things will turn out (SF3AA) (reverse)
APPENDIX D

HYPOTHESESIZED STRUCTURAL EQUATION MODEL
The Hypothesized Structural Equation Model used in Model Identification
REFERENCES


