THE RELATIONSHIP OF PSYCHOLOGICAL WELL-BEING TO LOCUS OF CONTROL IN MIDDLE ADULTHOOD

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CHAPTER I

INTRODUCTION

The study of human development is believed to have originated when humans first reflected on themselves as something special in the world (Lerner & Spanier, 1980). Lerner and Spanier (1980) continued that during the era of Plato around 400 B.C. the first major ideas about humans were formulated. Since that time philosophers, scientists, and psychologists have contemplated and examined the development of humans. Ideas about human beings seem to have evolved in a way similar to the evolution of the human condition.

Before the twentieth century, the study of human development was divided between childhood and adulthood. During the twentieth century, adolescence was seen for the first time as a distinct portion of the life span (Lerner & Spanier, 1980). More recently, psychologists, biologists, and other scientists studying human development have become interested in two other stages of the human life span, middle adulthood and old age (Peck, 1965).

This study will focus on the middle adulthood years of the life span. Middle adulthood is considered by Levinson, Darrow, Klein, and McKee (1974), as a time when one reflects

on the past. Whitbourne and Weinstock (1979) synthesized research on middle adulthood and developed the typical pattern of middle adulthood into three phases. The three developmental phases extend in age from 30 to 60. According to Peck (1965), middle age is considered to be somewhere between the late 30's and late 40's. During this time, humans reach a critical transition point. These middle adulthood years are often considered by theorists as mid-life crises, and can involve one or more of the following:

a. questioning of identity (Gould, 1972; Levinson et al., 1974; Lowenthal, Thurnher, & Chiriboga, 1975; Vaillant & McArthur, 1972);

b. concern over morality (Gould, 1972; Levinson et al., 1974);

c. discontent with marital relationship (Gould, 1972; Levinson et al., 1974);

d. concern over children leaving home (Lowenthal et al., 1975; Vaillant & McArthur, 1972); and

e. dissatisfaction with career accomplishments (Gould, 1972; Levinson et al., 1974; Vaillant & McArthur, 1972).

Conflicting results exist in the study of mid-life crisis. Whitbourne and Weinstock (1979) identified a mid-life crisis phase as part of the typical developmental pattern of middle adulthood, while in some populations, crisis was not significant and high levels of life satisfaction were reported (Hayes & Stinnett, 1971).

Life satisfaction has been used as a variable in studying development across the life span (Bourque & Back, 1977; Braun, 1976; Czaja, 1975; Harry, 1976) and particularly in old age (Kurtz & Wolk, 1975). Little research exists on life satisfaction and middle adulthood. The concept of life satisfaction has been referred to as psychological well-being by Bradburn (1965; 1969) and Sheehy (1981). Many researchers use the terms life satisfaction, psychological well-being, happiness, morale, and personal adjustment reciprocally; therefore, it is necessary to investigate each of these terms to insure a complete review of the larger concept of life satisfaction. Psychological well-being has been selected as the specific measurable concept in this study. However, for the purpose of clarity where the researchers have used other terms (i.e. life satisfaction, happiness, etc.) in their investigations, the terms will be referred to as they have been documented in that research.

Many variables have been used to research life satisfaction and describe the human experience. One of those, locus of control, was found to have positive correlations ranging from .32 to .54 with life satisfaction in an elderly population (Reid & Ziegler, 1977). Kozma & Stones (1978) indicate that locus of control is an important variable in the study of life satisfaction and development and needs further investigation.

Bourque and Back (1977), Czaja (1976), and Harry (1976) found a developmental trend toward higher levels of life

satisfaction while Bradley and Webb (1976), Browne (1975), Distefano, Pryer, and Smith (1971), and Lao (1973) found a developmental trend toward internal locus of control across the life span. This is evidence that as human beings age they tend to be more internally controlled and more satisfied with their life, and yet, researchers (Sheehey, 1974; Gould, 1972; Peck, 1965; Levinson et al., 1974; Lowenthal et al., 1975) have established that crisis has a common relationship to the changes and transitions of middle adulthood. It seems that a human being's ability to cope with change and transition might determine the extent to which the change would be considered crisis.

Stone, Cohen, and Adler (1979) have extensively reviewed the issues of coping and have adapted a coping definition from Lazarus and Launier (1978). According to their definition, coping is

> . . . efforts both action-oriented and intrapsychic, to manage (that is, master, tolerate, reduce, minimize) environmental and internal demands, and conflicts among them, which tax or exceed a person's resources. (p. 219)

It seems that coping in middle adulthood essentially means an individual's ability to deal with the many transitions. According to Rotter (1966), the concept of locus of control is related to the ability or inability to cope or adjust to change. He associated locus of control with personal adjustment and found that those who view reinforcing events as an outcome of their own behavior (internals), manifested better adjustment than those who view reinforcing events as an

outcome of factors beyond their own personal control (externals). Others (Hersch & Scheibe, 1967, Joe, 1971; Wareheim & Foulds, 1971) have extended this research and found that internal-external control (I-E) was consistently related to maladjustment with internals being less maladjusted. Locus of control seems to be an important variable in understanding many aspects of human behavior and can be an important variable in understanding ability to cope with the changes in middle adulthood.

When considering psychological well-being in middle adulthood, both interpersonal/environmental changes and intrapersonal/psychological changes may affect the human being. According to social learning theory (Rotter, 1966), an individual's expectancies are determined by experience. If that experience is constantly changing, then ability of individuals to differentiate their experiences is important to their psychological well-being. Gleazer (1980) discusses the rapidity of change in our culture and environment and its effect on human existence.

> All Americans will have the experience (limited of course by the terms of their existence) of living in a different culture - that of the future. Preparation for that excursion is complicated by lack of knowledge of what that culture will be like. And whatever it is, it will not stay the same. It will continue to change. That being the case, there can be no stopping point in learning (except cessation of existence). (p. 17)

Therefore as human beings in middle adulthood are experiencing the changes in their environment they are also coping with the intrapersonal/psychological tasks and stages involved.

Peck (1965) defines the successful transitions in adulthood as developmental task accomplishment. A shift in coping strategies and values is essential for a human being to move through the stages of middle adulthood. Those that are unable to make the necessary transitions become increasingly depressed, bitter, and dissatisfied with life (Peck, 1965).

Significance of the Study

The present investigation is significant in that, up to this time, middle adulthood has not been thoroughly studied in relation to locus of control or life satisfaction. The inclusion of the locus of control variable is used as an indicator of intrapersonal/psychological adjustment (Rotter, 1966). This investigation is timely because previous research on old age has shown life satisfaction to be positively related to continued growth and developmental task accomplishment (Kurtz & Wolk, 1975). Similarly, Bradley and Webb (1976) found internal locus of control to be positively related to life adjustment in old age. Other studies have found that internal locus of control increases across the life span (Lao, 1974; Ryckman & Malikiosi, 1975; Staats, 1974), and have identified variables significant to happiness and life satisfaction (Edwards & Klemmack, 1973; Palmore & Kivett, 1977; Robinson & Shaver, 1973; Toseland & Rasch, 1978). Considering the foregoing research, an assumption could be made that as human beings age they would possess more internal locus of control and higher levels of life

satisfation. If this is true, a researcher would also assume that low levels of internal locus of control and lower levels of life satisfaction would indicate anxiety and crisis. While these studies have found a positive relationship between these variables and old age, research conducted to date has not considered these variables in relationship to middle adulthood.

This investigation is designed to help fill a void in the research on life span development. The results of this study should help to provide a meaningful link between young adulthood and old age, in terms of the changes and adjustments that occur in the middle adulthood stage of life.

Statement of the Problem

In recent years, middle adulthood has been considered a significant portion of the life span. Sheehy (1974), Gould (1972), and Levinson et al. (1974) have found that crisis during this period is quite common. Neugarten (1976) has established data indicating that the mis-timing of the life event is more a crisis for the adult than the expected life change. In addition, Hayes and Stinnett (1971) established that there was no indication of crisis in a life satisfaction study of married adults ages 40 to 59. It seems apparent that some people experience transitions as crisis events while others do not. This indicates that additional research is needed in middle adulthood.

Therefore, this study will not focus on middle adulthood as a crisis event but will consider the issues of

middle adulthood as developmental tasks that require transitions. How middle age adults adjust to those transitions can then be measured by locus of control, and satisfaction with accomplishment of life tasks can be measured by assessment of psychological well-being. This study is designed to answer the following research questions:

1. Does a significant interaction exist between age and locus of control on psychological well-being?

2. Does age have a significant effect on psychological well-being?

3. Does locus of control have a significant effect on psychological well-being?

Definition of Terms

Locus of control has been defined by Levenson (1974) as felt mastery over one's own personal life (internal control) or the extent to which people believe their destinies are controlled by chance or powerful others and political institutions (external control). For the purpose of this study only two dimensions of internal-external control will be measured, internal and powerful others. The chance dimension will not be measured.

a. An internal locus of control is referred to as an internal (I) score on Levenson's (1974) eight item internal (I) scale. The higher the score (0-48) indicates higher internal control.

b. A powerful others locus of control is referred to as a powerful others (P) score on Levenson's (1974)

eight item powerful others (P) scale. The higher the score (0-48) indicates higher external control.

Psychological well-being has been defined by Bradburn (1969) as an assessment of the degree to which an individual has positive and negative affect.

> An individual will be high in psychological well-being in the degree to which he has an excess of positive over negative affect and will be low in well-being in the degree to which negative affect predominates over positive. (p. 9)

Throughout this study, psychological well-being is referred to as an overall affective balance score (ABS) obtained from individuals in three age groups, 30-39, 40-49, 50-59. These individuals will take the ten item Affective Balance Scale (Bradburn 1969).

Middle adulthood has been defined chronologically as extending from age 30 to 60 (Whitbourne & Weinstock, 1979). However, for the ease and clarity of the research design, the chronological definition extends from age 30 to 59.

Social status has been defined as a combined educational and occupational score on Hollingshead's (1975) Two-Factor Index of Social Status.

Hypotheses

The .05 level of significance was utilized in testing the following hypotheses:

1. There is a significant interaction between age and locus of control on psychological well-being.

2. There is a significant main effect for age on psychological well-being.

3. There is a significant interaction between age and locus of control on psychological well-being.

Organization of the Study

Chapter I included an introduction to the problem, the significance of the study, a statement of the problem, definition of terms, and hypotheses. Chapter II includes a review of related literature presented with the following divisions: (a) change and the theoretical foundation of middle adulthood, (b) the developmental trend of locus of control and related contructs, (c) the developmental trend of life satisfaction and related constructs. Chapter III describes the research design and methodology, the selection and description of subjects, instrumentation, data collection and analysis. Chapter IV contains the findings of the study and discussion of results. Chapter V includes the summary, conclusions and recommendations for further research.

CHAPTER II

REVIEW OF LITERATURE

Middle adulthood is best understood by exploring psychological well-being and the conditions that affect adjustment during this phase of the life span. In this chapter a review of the pertinent literature is presented. The theoretical and empirical basis for the present investigation is divided into three major sections.

The first section includes a brief review of human development and the theoretical foundation which forms the basis of this investigation on middle adulthood. The second section concentrates on the relevant theoretical and empirical literature pertaining to the use of locus of control as a criterion for intrapersonal/psychological adjustment and its relationship to age. The last section is a review of the literature on psychological well-being and its use in investigating development through the life span.

Middle Adulthood

According to Gleazer (1980), the world is in a constant state of inevitable change, and every human being will be affected by change, both interpersonal/environmental and intrapersonal/psychological. Neugarten and Moore (1968) indicate that some of the major social institutions which

have affected interpersonal and intrapersonal change are the family, the economic system, and the political and legal systems. They continue that changes in each of these systems have coexisted with biological, social and economic developments. Urbanization, a striking increase in longevity, superimposed upon a dramatic change in technology, and alterations in the economic and family systems have led to changes in the age status system (Neugarten & Moore, 1968), which affects human development (Whitbourne & Waterman, 1979).

> In all societies, age is one of the important factors in determining the ways people behave toward each other. Certain biological and social events come to be regarded as significant punctuation marks in the life line and to signify the transition points from one age status to the next . . . . In all societies age-status systems emerge, in which duties, rights, and rewards are differently distributed to age groups which themselves have been socially defined. (Neugarten & Moore, 1968, p. 5)

Neugarten and Moore (1968) explain that as societies become more complex, age status is differentiated in relation to the particular social institution. The timing of important events in the life cycle are different for individuals in different social and economic classes (Neugarten & Moore, 1968), as well as different generations (Whitbourne & Waterman, 1979). Similarily, Fry's (1976) study on the ages of adulthood found that respondents with higher educational and socioeconomic levels made more age category distinctions than did other respondents. These findings indicate that age is ambigious because of the cultural

dimension. Although age may be ambigious culturally, Fry (1976) indicated that chronological age is still an exact criterion that can be translated into age related systems. Therefore, when using chronological age as an index in studying human development it is important to control for socioeconomic status or to differentiate a homogeneous subculture or group.

Many theorists have described the changes in human beings with regard to physical/biological development (Land, 1973) and social/psychological development (Erikson, 1963; Peck, 1965). Erikson (1963) and Peck (1965) have described psycho/social stages of development with one or more primary tasks or crises to be resolved within each stage. If a developmental task or crisis has not been resolved an individual cannot move fully into the next stage of ego development. These stages of development are not presented as discrete stages; an individual may be accomplishing tasks in one or more stages simultaneously.

Stages of growth and development have been recognized for centuries. Hinduism, which existed 700 years before the birth of Christ, recognized four distinct stages of life (Smith, 1958). In further study of human growth and development, Bühler (1935) described five stages: growth, exploration, establishment, maintenance and decline.

Erikson (1963) delineated eight stages of man. The eight stages and the developmental focus of each includes the following: (a) early infancy focuses on the development

of a sense of basic trust versus a sense of distrust; (b) later infancy, when analmuscular maturation has occurred, involves a growing sense of autonomy versus a sense of shame and doubt; (c) early childhood, the period of greatest locomotor development, focuses on developing a sense of initiative versus a sense of guilt; (d) the middle years of childhood involves the development of a sense of industry versus a sense of inferiority; (e) adolescence centers on a sense of ego identity (certainty of self, and a sense of continuity and belonging regarding career, sex role, and a system of values) versus role confusion; (f) early adulthood focuses on the development of intimacy (mutuality with a loved partner of the opposite sex with whom the individual is able to regulate the cycles of work, procreation, and recreation) versus a sense of ego isolation; (g) middle adulthood centers around the development of generativity (expansion of ego interests and a sense of having contributed to the future) versus a sense of ego stagnation; and (h) late adulthood focuses on a sense of ego integrity (a basic acceptance of one's life as having been inevitable, appropriate, and meaningful) versus a sense of despair (fear of death) (Erikson, 1963).

The last two stages of Erikson's theory (1963), generativity versus stagnation and ego integrity versus despair, relate to middle adulthood and late adulthood respectively. Peck (1965) has expanded these last two stages of psychological development into seven stages inclusive of the second

half of life. The first four stages describe psychological development in middle adulthood. The last three stages describe psychological development in old age. Since this study is directed toward middle adulthood, only those stages will be discussed in depth. Peck (1965) described the first stage as valuing wisdom versus valuing physical powers. This begins sometime after the late twenties. An inevitable consequence of aging is a decrease in physical strength, stamina and attractiveness (the youthful look). As physical powers visibly decline a shift in values begins to occur. The experience of age shows an increase in judgment powers or wisdom. Wisdom is defined as an ability to make effective choices among the alternatives and to problem solve. Peck (1965) stated:

> Some people cling to physical powers as a chief tool for coping with life, and as the most important element in their value hierarchy, especially in their self-definition . . . . Such people tend to grow increasingly depressed, bitter, or otherwise unhappy as they grow older. (p. 613)

The optimum course for this first stage would be to invert physique-based values to wisdom-based or mental-based values.

The second stage is socializing versus sexualizing in human relationships. This stage is allied to the physical decline. It is the turning point in which sexual activity and competence are reduced (climacteric in the male and menopause in the female). Both biologically and socially, sex is of primary importance in the first half of life and of secondary importance in the second half of life. By

nature of human physiology and social definition human beings in the second half of life feel many other drives more strongly than the sex drive. This change allows a depth of understanding between men and women that the sex drive tended to prevent. The positive movement in this stage is a redefining of men and women as individuals and companions with a decreasing significance in the sexual element (Peck, 1965).

The third stage Peck (1965) describes is cathetic flexibility versus cathetic impoverishment. This is best described as 'emotional flexibility'. It is "the capacity to shift emotional investment from one person to another, and from one activity to another" (p. 614). This capacity for adjustment is important throughout life. However, it is most crucial as a function of middle adulthood because this is the period when most human beings are experiencing the death of their parents, the separation from grown children leaving home, and the "circle of friends and relatives of similar age is beginning to be broken by death" (p. 614). Many human beings, on the other hand, experience this time of life as the time when they have the widest range of acquaintances in their community and vocational worlds. They experience "a greater variety of people, of roles, of relationships; all of which can lead to a more complex set of more varied, differentiated relationships than is possible at younger ages" (p. 618). The positive movement in this stage is a redefining of cathetic relationships.

Peck's (1965) fourth stage is mental flexibility versus mental rigidity. As human beings learn to master their experiences some use them as a set of fixed inflexible rules while others tend to use them as provisional guides for working out new issues. A common belief is that in the middle years people grow more set in their ways, meaning they become inflexible in opinions and actions and closed minded to new ideas. During middle adulthood, when human beings are at the peak of status and power most "have worked out a set of answers to life, and may be tempted to forgo further mental effort to envision new or different 'answers'" (p. 615).

The fifth stage (Peck, 1965) is ego differentiation versus work-role preoccupation. This stage is created primarily by the impact of vocational retirement. For some women this stage may occur much earlier in middle age when their work role as mother ends when grown children leave home. The principal need here is for a shift to valuing a broader range of activities and redefining one's worth from one's vocational role to other self attributes.

The sixth stage (Peck, 1965) is termed body transcendence versus body preoccupation. During old age there is a marked decline in the human beings ability to resist illness, recuperate from illness and an increase in bodily aches and pains. For humans that predominantly value the pleasure and comfort of physical well-being, the decline may be a grave insult. Others, however, learn to transcend the value of

physical comfort and "define 'happiness' and 'comfort' in terms of satisfying human relationships, or creative activities of a mental nature" (p. 617).

The final stage Peck (1965) describes is ego transcendence versus ego preoccupation. This is the stage of adaptation to the prospect of one's death. Constructive living in the late years is

> to live so generously and unselfishly that the prospect of personal death . . . looks and feels less important than the secure knowledge that one has built for a broader, longer future than any one ego ever could encompass. (p. 617)

The only "knowable" way human beings achieve enduring significance for their actions is through children, contributions to the culture, and friendships. The human being that clings to his own private, separate identity at the expense of others' welfare and happiness is unable to transcend a possible destructive ego preoccupation.

Examination of studies on middle adulthood reveals attitudes and findings similar to the theoretical assumptions of Peck (1965). Clausen (1976) found support for the stage of cathetic flexibility by examining occupational and family histories of two long-term longitudinal cohorts (at age 40 and age 50). His research established that the middle years represented continuity and stability (Clausen, 1976). Although the subjects did not report being free from tension and uncertainty, very few gave any indication of mid-life crisis. They did however represent a rather select population of middle class adults that were occupationally

successful. Those that had dropped out of the sample before the follow up had been previously determined to be "psychologically and socially less effective and satisfied than those who remained in the sample" (p. 101). The possibility then exists that those who dropped out of the original study might be less inclined to agree with the reports of limited mid-life crisis.

One issue of mid-life crisis has been referred to by Gould (1972), Levinson et al. (1974), Lowenthal et al. (1975), and Vaillant and McArthur (1972), as the questioning of identity. Whitbourne and Weinstock (1979) used a model developed by Marcia (1966) to explain identity change in middle adulthood. Marcia's (1966) model contained four identity statuses: achieving, moratorium, diffuse, and foreclosed. Whitbourne and Weinstock (1979) described those statuses in relationship to adult identity. They explained that the identity-achieving adult shows continuity in expressing the fullest identity and consciously does not assume a stereotyped adult role. Moratorium adults seek the fullest expression of their potential identity; however, without a firm identity they fluctuate between temporary solutions. Diffuse adults may or may not fulfill the societal expectations of adult roles, but either way they would not invest themselves psychologically. Foreclosed adults accept the age/sex related roles of society and without question behave accordingly. The identity-achieving adult may also follow the social norms; however, the main

difference between an achieving adult and a foreclosed adult is the lack of conscious questioning. The adult that is foreclosed in the early portion of middle adulthood is most likely to go through mid-life crises (Whitbourne & Weinstock, 1979).

Bockneck (1976) supports this contention, indicating that the foreclosed individual receives praise, acceptance, and a secure place for adopting the cultural mold. He states that

> such actions may well impede personal development, leading to blunting of personality, and often eventuates in the apathy, discontent and vague dissatisfactions so frequently observed in later adult years. (p. 39)

Successful social adjustment without questioning may then have a detrimental effect on the personality in middle adulthood. According to Bocknek (1976) social adjustment is quite different from psychological (intrapersonal) adjustment. The environmental pressures toward foreclosure are so powerful that most adults adapt to the roles expected of them rather than opt for autonomous growth (Bocknek, 1976).

The foregoing literature has established the stages and tasks of middle adulthood. It is germane to this study to examine intrapersonal/psychological adjustment with human beings in middle adulthood and their psychological well-being. Locus of control will be the variable utilized in this study to measure intrapersonal/psychological adjustment and is presented in the next section.

Locus of Control

Middle adulthood encompasses significant transition periods that are believed to impact the course for adjustments that will follow into old age (Butler & Lewis, 1973; Peck, 1965). Yet little is known about the dimensions of personality in middle adulthood (Kivett, 1976). Locus of control is a variable that has contributed to the knowledge of the aging process and personality (Bradley & Webb, 1976; Kivett, 1976; Lao, 1974).

Rotter's (1954) belief that behavior was learned through social interaction, "social learning theory", laid the foundation for his concept of internal versus external control of reinforcement (I-E). The degree to which a human being perceived reinforcing events or rewards as contingent upon their own behavior, skills or knowledge (internals) versus the degree to which a human being perceives rewards contingent upon luck, fate, chance or powerful others (externals), determines their expectancy or generalized belief about the world (Rotter, 1954).

The effect of the experience is directly related to the value and meaning held for that experience by the individual. According to Lao (1973), the later experience is more important than the earlier experiences in determining locus of control. She determined in a study of college adults that childhood and background experiences are not significantly related to I-E; however, I-E was related to personal experience and the later experience revealed a stronger relation-

ship. According to Kivett (1976, p. 113), more research is needed on locus of control and its relationship to adjustment and life satisfaction.

Intrapersonal/Psychological Ajustment

Personal beliefs resulting in internal versus external control embody an important relationship to a human being's psychological adjustment (Warehime & Foulds, 1971; Hjelle, 1976). Hersch and Scheibe (1967) found I-E to be consistently related to a number of personality scales including the Incomplete Sentence Blank (Rotter & Rafferty, 1950), the California Psychological Inventory (Gough, 1964), and the Adjective Check List (Gough & Heilbrun, 1965). Internal scorers consistently described themselves as more active, striving, achieving, powerful, independent, and effective. While internality has been related to efforts at bettering one's life circumstances (Lefcourt, 1966; Rotter 1966), externality was found to be related to anxiety and neuroticism (Watson, 1967), suicide and accident proneness (Boor, 1979; Williams & Nickels, 1969), and psychopathology (Harrow & Ferrante, 1969).

While some believe self-actualization to be the ultimate personal adjustment, Hjelle (1976) found internality and self-actualization (as measured by the Personal Orientation Inventory) (Shostrom, 1964) to be significantly related. There is however, a discrepency between the locus of control instruments used. Hjelle (1976) utilized both the Environmental Preference Scale (Rotter 1966), and the Adult

Nowicki-Stickland Internal-External (1973). Respectively, he found 4 of the 24 correlations were significant to the Personal Orientation Inventory while 17 of the 24 correlations were significant at or below the $p < .05$ level.

Smith (1970) established that changes in locus of control occur as a function of life crisis resolution. Working with two groups of outpatients (one group in crisis and the other not in crisis) he demonstrated that although both groups were external in locus of control, initial I-E scores were not significantly different. After the crisis and non-crisis outpatients had 6 weeks of crisis intervention treatment, locus of control was measured again. Crisis outpatients were significantly more internal after treatment while the non-crisis outpatients did not show a significant change in locus of control. According to Smith (1970), as an individual resolves his crisis he learns and begins to use more effective coping mechanisms. Since the usual coping mechanisms have failed, the individual is ripe for great positive change in a short period of time. Crisis resolution in middle adulthood may also affect significant personal changes and locus of control.

Age

Effects of age on locus of control have been well documented (Lao, 1974; Milgram, 1971; Penk, 1969; Ryckman & Malikiosi, 1975; Staats, 1974). Examining the relationship between age and locus of control first took place with children (Milgram, 1971; Penk, 1969) and indicated that as

human beings mature their sense of control becomes more internal. Browne (1975), Lao (1974), Ryckman and Malikiosi (1975) and Staats (1974) are several that have considered these variables across the life span with similar results. Yet, few studies have been concerned with perceived locus of control and middle adulthood.

Statts (1974) administered the Environmental Preference Scale (Rotter 1966) to three groups of males and females ages 5-15, 16-25, and 46-60. She found a significant ($p < .01$) relationship in age and locus of perceived control. Consistent with the Penk (1969) and Milgram (1971) studies, she found that as human beings increase in age there is an increase in internal control. A tendency for males to be more internal than females was suggested, although not significant.

Lao (1974) explored the developmental trend of locus of control and age. She administered the Environmental Preference Scale (Rotter 1966) to 277 subjects in seven age groups, 15, 20-29, 30-39, 40-49, 50-59, 60-69, and 70 and older. The results indicated an increase in internality from youth to adulthood (15 to 30-39). Internality reached its peak at 30-39 years and leveled off, remaining relatively stable until 50-59 years. Lao (1974) predicted a decline in internality in old age (60 and over). Although there was a slight tendency for internality to decrease after 60 it was not significant.

Ryckman and Malikiosi (1975) replicated Lao's (1974) study, expanding the sample size and using a multi-dimensional locus of control instrument (Levenson, 1974). The study consisted of two samples. A total of 100 college students were selected which the researchers compared to a national sample (not random) of youth and adults. The returns of the national sample indicated a strong self-selection bias operated which limits the generalizability of the results. Although the returns tended to be of higher socioeconomic background, the results were similar to Lao's (1974) sample of different socio-economic backgrounds. The findings indicated a significant ($p < .05$) difference between the college students and all age groups of the national sample except the 70 to 74 year olds. The college students were more external than all the other age groups (17-20, 20-29, 30-39, 40-49, 50-59, 60-69) except the oldest (70-79). The data indicated similar findings to Lao's (1974), revealing a stabilized sense of internal control in the middle years and no significant decline in internality into old age.

Bradley and Webb (1976) took another approach to investigate the developmental trend of locus of control. They measured the locus of control of 306 subjects, age 13 to 90, in three behavior domains, intellectual, social, and physical. The Locus of Control Inventory for Three Achievement Domains, (LOCITAD), was utilized (Bradley & Gaa, 1973). The researchers suggest with others (Ducette & Wolk, 1972; Rotter,

1975; Weiner, Heckhausen, Meyer & Cook, 1972) probable consequences for changes in psychological adjustment across the life span. These consequences are:

> 1) Locus of control is strongly related to affective responses to outcomes in situations and, 2) locus of control involves both a person's reality orientation regarding the amount of control she/he can actually exercise over outcomes as well as a generalized, relatively persistent personality trait pertaining to personal control over outcomes. (Bradley & Webb, 1976, p. 50)

Results indicated that age was significantly ($p < .01$) related to locus of control. Adults over 60 years of age were more external on the physical domain. Adolescents and adults over 60 years of age believed they had less control (external) over the social domain than the adults age 35-50 (internals). As predicted there were no significant age differences on the intellectual domain. Their findings seem consistent with the theoretical assumptions of Peck (1965) where a shift in valuing mental powers (intellectual domain) versus physical powers occurs in middle age and becomes significant into old age.

A study of 337 adults ages 45 to 65 by Kivett (1976) which utilized the Environmental Preference Scale (Rotter, 1966) determined physical, psychological and social variables of locus of control. A psychological factor (self-concept), and two social factors (religious motivation and occupation), maintained the strongest relationship to locus of control. Her results indicated that individuals with positive "actual" self-concepts were predictive of inter-

nality while individuals with high "ideal" self-concept scores were related to externality. Adults that were extrinsic in their religious motivation rather than intrinsic were significantly more external in locus of control. Adults that had an active mastery over their religious beliefs were internal and adults that utilized religion as a social tool or as a response to social demands were external. Occupation accounted for most of the variance of the multiple correlations. Individuals in jobs that allow for manipulation of persons or machines were predictive of internality. These adults tended to have a great deal of independence in their work setting (internals) rather than rigid work hours, restrictive work space, rigid supervision and accountability so typical of the clerical worker (externals). Physical variables such as self-rated health, sex, and age were significant before controlling for the psychological and social factors.

Distefano, Pryer and Smith (1971) utilized the Environmental Preference Scale (Rotter, 1966) to compare three groups (normal adolescents, psychiatric patients, and normal adults) to locus of control. There were four age groups (16, 17, 18, and 19) that were represented by the normal adolescents. Of the four age groups, a significant difference was found for age ($p < .01$) with externality decreasing across the age levels. The psychiatric patients were significantly more external than the normal adults ($p < .01$). Normal adults were also significantly lower on

external control scores than the oldest adolescent group ($p < .05$). Age was not, however, significantly related to I-E in the psychiatric patient group.

Gould (1972) studied developmental concerns of normal and psychiatric outpatients across seven age groups (16 to 60). He found that the concerns for each age group (normal and psychiatric) were the same. The types of problems could be linked with the normal processes of development for each age group. Although the problems and concerns for both groups studied were similar, when considering the research of Distefano, Pryer, and Smith (1971) and Smith (1970) it seems probable that the severity of the maladjustment may be the strongest predictor for extreme scores on I-E.

The literature presented has established locus of control as a variable that is relevant to the assessment of psychological adjustment. The level of external (environmental) control as opposed to internal (intrapersonal) control will determine a human being's psychological adjustment to the stages and tasks of middle adulthood. Psychological well-being will be the variable utilized in this study to measure the level of satisfaction with which human beings deal with middle adulthood and is presented in the next section.

Psychological Well-Being

Life satisfaction has been referred to as psychological well-being, happiness, morale, and personal adjustment. Each term is part of the larger concept of life satisfaction

and many researchers use these terms reciprocally. Havighurst and Albrecht (1953), and Landis (1940), have used the terms happiness and personal adjustment interchangeably. Others have used morale as a measure of life adjustment (Kutner, Fanshel, Togo, & Langer, 1956). However, Graney and Graney (1973) demonstrated in a nine-year longitudinal study of forty-four females ages 65-92 residing in public housing that personal adjustment and happiness are unrelated concepts. Their conceptualization of personal adjustment is a personal orientation toward social activity and the congruence between an individual's orientation and their level of activity.

Kozma and Stones (1978) view psychological well-being and happiness as hedonistically relevant experiences. Their evaluation of the Affective Balance Scale (Bradburn & Caplovitz, 1965) facilitates the measuring of well-being or happiness as a short term fluctuation of current levels of happiness. While Kozma and Stones (1978) use this definition for well-being, Sheehy (1981) uses the term "well-being" as more than a "narrow sense" of happiness:

> Well-being registers deep in our unconscious. It is an accumulated attitude, a sustained background tone of equanimity behind the more intense contrasts of daily events, behind even periods of unhappiness. (p. 10)

Sheehy (1981) and Bradburn (1969) also use the term life satisfaction and psychological well-being interchangeably.

Although the general diffuseness of the terms is useful at high levels of abstraction, researchers have need to

clarify their concepts for developing further research (Graney & Graney, 1973). George (1979) makes these conceptual distinctions among satisfaction-related constructs and the specific concepts of life satisfaction, morale, and happiness:

> 'Life satisfaction' refers to an assessment of the overall conditions of existence as derived from a comparison of one's aspirations to one's actual achievements (Campbell et al. 1976; Cantril, 1965)
> . . . .
>
> 'Morale' is one's mental condition with respect to courage, discipline, confidence, enthusiasm, and willingness to endure hardship (Webster, 1968)
> . . . .
>
> 'Happiness' refers to transitory moods of gaiety or euphoria (Campbell et al., 1976), reflecting the affect people feel toward their current state of affairs. (George, 1979, p. 210-211)

According to George (1979), each term is defined as

> a global concept referring to life as a whole rather than to specific domains of life experience . . . . Domain - specific measures, on the other hand can be used to elucidate the 'why' and 'what with' people are satisfied. (p. 211)

Global Life Satisfaction

A number of social surveys have used global measures of life satisfaction. Gurin, Veroff and Feld (1960) investigated happiness in a nationwide survey of adults over 21 years of age. Their sample was chosen by probability methods and consisted of a national cross-section of 2,460 respondents. In over an hour long interview, they employed a three-alternative happiness question. "Taking all things together, how would you say things are these days--would you say you're very happy, pretty happy, or not too happy these

days?" A total of 35% responded to very happy, 54% to pretty happy, and 11% to not too happy. This same question was utilized by Bradburn and Caplovitz (1965) in a study of over 2,000 adults in four Illinois towns. Two towns were considered relatively affluent and two were considered economically depressed. Their results were quite similar to Gurin et al. with 24% responding to very happy, 59% pretty happy, and 17% not too happy.

Robinson (1977) conducted a nationwide study on Americans' use of time. The sample consisted of 6,244 adults under the age of 65 where at least one member of the household was employed in a non-farm occupation. He used a single global question on satisfaction with life. The question was a three-alternative question; "In general how satisfying do you find the way you're spending your life these days? Would you call it completely satisfying, pretty satisfying, or not very satisfying?" He found 24% were completely satisfied with how they were spending their life, 65% were pretty satisfied, and 11% not very satisfied. In 1968, the same question was repeated by the National Opinion Research Center, in a nationwide survey of 1,315 adults. The results were astoundingly similar with 24% completely satisfied, 66% pretty satisfied, and 10% not very satisfied (Robinson & Shaver, 1973).

An additional global measure was devised and utilized by Cantril (1965) in a thirteen nation study where close to 20,000 people were interviewed. A modified probability

sample of 1,549 people were interviewed in the United States. The measure is a self-anchoring scale in which individuals respond to an eleven point scale, the Cantril Ladder, to describe their life. The lowest end of the scale being the "worst possible life" and the highest end of the scale being the "best possible life" in the future. Results of the sample show that 13% of the respondents fall below what Robinson and Shaver (1973) designated as the logical division between satisfied and dissatisfied would be drawn. The self-anchoring scale was used in a second question to inquire into individual's present satisfaction with life. The mean score was higher in the assessment with present satisfaction than with the assessment of satisfaction with life in the future, 7.6 and 6.6 respectively.

According to Robinson and Shaver (1973), the Cantril Ladder is a technique that both obscures and controls for variations in individual differences and aspiration levels. Even though it is difficult to compare the self-anchoring device with the other global measures already presented, the 13% in Cantril's sample that could be considered "dissatisfied" is very close to the percentages of "not too happy", 11% in Gurin et al. (1968) study, 17% in Bradburn and Caplovitz (1962) study and the "not very satisfied", 11% in the Robinson (1977) study and 10% in National Opinion Research Center (1968) report.

Several global and domain specific measures of life satisfaction and psychological well-being, have been devel-

oped for use with older human beings (Kurtz & Wolk, 1975; Neugarten, Havighurst, & Tobin, 1961; Wood, Wylie, & Sheafor, 1969). However, few have been appropriate for an adult population in the middle span of life. The Affective Balance Scale (ABS) (Bradburn, 1969) was normed on young and middle aged adults and according to Kozma and Stones (1978), is probably the best current measure of psychological well-being.

According to Kozma and Stones (1978), the Affective Balance Scale (ABS) (Bradburn, 1969) has three advantages. First, it is an ideal scale to maintain differentiation between well-being and related constructs such as adjustment. Second, adjustment may be best understood as the strategies used to cope with affective states and may be more related to developmental task accomplishment than well-being. Third, since it is a measure of current levels of well-being it should facilitate sensitivity to the short-term fluctuation in the associated measuring instruments in this investigation, Levenson's (1974) Internal-External Locus of Control Scale.

Another advantage to the use of the ABS is that it is possible to use the measure for comparing the psychological well-being of several age groups. Since it was normed on young and middle aged (Bradburn, 1969), Moriwaki (1974) has used the ABS and its two subscales, the Positive Affect Scale (PAS) and the Negative Affect Scale (NAS), in a validity study with two elderly samples, ages 60 and over. One

group was drawn from psychiatric outpatients and one was drawn from normal community residents. Her findings indicated normal community residents were significantly higher on ABS than the psychiatric outpatients, with mean scores of 8.27 and 4.25 respectively (t=5.58; p <.001). On the two subscales there were also significant differences with normal community residents significantly higher on PAS (t=3.61; p <.005) and significantly lower on NAS (t=4.98; p <.001).

Domains and Correlates of Life Satisfaction

Numerous empirical studies have utilized global and domain-specific assessments of life satisfaction to determine the variables that can explain and predict the most satisfying human existence. The research has generally found positive and substantial relationships between life satisfaction and perceived health, level of activity, socio-economic status and, to some degree, age (Bradburn & Caplovitz, 1965; Cantril, 1965; Edwards & Klemmack, 1973; Palamore & Luikart, 1972; Palamore & Kivett, 1977). Few investigations have been designed to study middle adulthood and life satisfaction, and only one of these (Palamore & Luikart, 1972) has used the locus of control variable. The most salient of these variables for this investigation are age, social status, and locus of control.

Differences in life satisfaction and age were assessed by Bradburn & Caplovitz (1965) and Gurin et al. (1960) with the use of the single item happiness question referred to previously. The percent of "not too happy" increased across

the age groups for both studies (under 30 to 70 and 21 to over 55, respectively). Similarly, the Robinson (1977) study and the National Opinion Research Center (1968) utilized the single item life satisfaction question to assess age differences and level of satisfaction. They also found the percent not very satisfied increased across the age groups (under 30 to 66, and 21 to over 70, respectively). The National Opinion Research Center (1968), however, found that differences in age and percent not very satisfied largely disappear when unmarried people are excluded. Robinson and Shaver (1973), indicate that this "consistent finding may well hinge upon the higher incidence of divorce and death of marital partners for this group" (p. 19). Invariably, individuals of higher social status reported higher levels of life satisfaction.

Hayes and Stinnett (1971) developed a domain specific measure, the Middle Years Life Satisfaction Scale (MYLSS), to assess life satisfaction in seven domains of life; marital relations, health, standard of living, occupation, relations with children, leisure time and social participation, and self-concept. They administered the MYLSS to a homogeneous sample of 360 adults aged 40 to 59. The sample was primarily middle class with the greatest proportion of the respondents having lived in small towns most of their lives. Social class was determined as significantly related to life satisfaction ($p < .05$), while age was not significant.

The Life Satisfaction Index - A (LSI-A) (Adams, 1969) was employed in a multiple regression technique with 22 independent variables (Edwards & Klemmack, 1973). A sample of 507 adults ages 45 to 65 and older were secured from census data. Age was statistically significant before controlling for socioeconomic status. The three variables that contributed to most of the prediction of life satisfaction were socio-economic status, perceived health, and nonfamilial participation. A particular issue that presents uncertainty is instrumentation; the LSI-A (Adams, 1969) was developed for use with an elderly population.

The LSI-A (Adams, 1969) was modified for use with younger and older subjects by Czaja (1975); however, validity information was not presented. Life satisfaction was assessed across six age groups from 20 to 75. She found that, although youth is rated as the happiest period in life, there is no decline in life satisfaction with increasing age.

Braun (1976) utilized both the single item happiness scale (Bradburn & Caplovitz, 1965) and the Affective Balance Scale (Bradburn, 1969) to assess life satisfaction of 1,957 individuals ages 16 to 74. She found no significant relationships to sex or socioeconomic status with the happiness scale or the Affective Balance Scale (Bradburn, 1969). There was, however, a significant relationship to age and the Affective Balance Scale (Bradburn, 1969). Older adults were happier than younger adults.

Clemente and Sauer (1976) investigated life satisfaction in a national survey of the National Opinion Research Corporation National Data Program for the Social Sciences (Davis, 1973). Their assessment of life satisfaction was a four item scale. Each item assessed satisfaction with a separate domain; place of residence, family life, friendships, and activities. Six independent variables were tested through regression analysis. It was hypothesized that age would have an inverse relationship to life satisfaction. However, it was found that both the 40-59 age group and the 60 and over age group scored significantly higher ($p < .05$) on life satisfaction than the 18-39 age group. Socioeconomic status had a negligible relationship with satisfaction.

Palamore and Kivett (1977) operationalized their study on life satisfaction by the Cantril Ladder technique (Cantril, 1965). They followed 378 community residents, ages 56-70 in a four year longitudinal investigation which originally included 17 independent variables. A total of 124 subjects dropped out of the original investigation with returners having somewhat higher socioeconomic status and higher life satisfaction. Between samplings there were no significant scores for any age-sex cohort. In an earlier investigation (Palamore & Luikart, 1972) of 502 subjects ages 45-69, locus of control was the third most significant variable accounting for most of the variance in life satisfaction and the second best predictor for 60 to 71 year olds. However, in this

investigation locus of control was dropped because of the uncertainty of its validity and reliability. Kozma and Stones (1978) indicate that the locus of control/life safisfaction relationship should be investigated.

According to Kozma and Stones (1978)

> it has been impossible to determine the age and well-being relationship . . . . It may be that 'predictors' of well-being change with age, while degree of well-being remains unchanged. (p. 247)

The two major problems with the age and well-being relationship are the lack of longitudinal and cross-sequential designs and the failure to control for confounding variables, (i.e. socioeconomic status and chronic physical illness). As mentioned previously, there are also problems with appropriate instrumentation in assessing life satisfaction across diverse age groups. If time of measurement problems exist, it may be more appropriate to strengthen a developmental study by limiting the investigation to a particular age group or stage of the developmental process while controlling for confounding variables.

Summary

The related literature presented is a review of human development emphasizing the stages and tasks of middle adulthood. Knowledge of these stages establishes evidence upon which to build a theoretical basis for natural transitions in middle adulthood. Environmental and psychological changes and adjustments during middle adulthood affect psychological development during old age. Therefore, development, which Peck (1969) terms successful aging, during

middle adulthood is important to the happiness and psychological well-being of human beings in old age.

Locus of control, the criterian for measurement of psychological adjustment during middle adulthood, has established an empirical basis of association with many factors in mental health. Human beings possessing more personal control over external control tend to have higher levels of mental health.

The literature has established psychological well-being as measured by the Affective Balance Scale (Bradburn, 1969), as a global assessment of life satisfaction and happiness. Psychological well-being was applied as a dependent variable in examiming its relationship to middle adulthood and a human being's psychological adjustment to this period of the life span.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

This chapter begins by explaining the nature of the study and then presents the selection and description of subjects. The chapter continues with information on the data collection and analysis. The chapter concludes with a description of the statistical design and procedures.

Nature of the Study

This study was conducted by using a quasi-experimental research design. As discussed in Chaper I, the problem to be investigated is the relationship of locus of control and three age levels of middle adulthood on psychological well-being while controlling for social status. Due to subject availability random selection of subjects was not feasible. Therefore, a quasi-experimental research design was used to infer statistical results.

Selection and Description of Subjects

The population consisted of Student Services employees from a large land grant university in the southwest. The employees include administrative and professional staff and classified staff. Classified staff include occupations that are clerical and labor. The employees were allowed the opportunity to participate or not to participate in the study. Anonymity and confidentiality were assured.

A total of 541 Student Services employees of all ages at the university were surveyed at staff meetings. There were 322 surveys that were deleted from the sample. Of this group, 150 surveys were incomplete. The incomplete surveys came primarily from food service, maintenance, housekeeping, and janitorial occupations. Employees in these occupational areas required a longer length of time to complete the survey, indicating a possible problem with readability and/or educational level. A total of 160 surveys were below the age of 30 or above the age of 59. Since 12 scores fell at the mean, they were deleted in a mean split.

The sample resulted in a total of 219 middle adulthood subjects. The subjects were grouped according to age level. Group I consisted of 88 subjects ranging in age from 30 to 39; group II consisted of 69 subjects ranging in age from 40 to 49; and group III consisted of 62 subjects ranging in age from 50 to 59.

Data Collection and Analysis

At the beginning of the Spring semester, 1983, the researcher attended staff meetings in each division of Student Services. A copy of the Affective Balance Scale (Bradburn, 1969), (Appendix A), the Internal-External Locus of Control Scales (Internals and Powerful Others) (Levenson, 1974), (Appendix B), and the Two-Factor Index of Social Status (Hollingshead, 1975), (Appendix C) were administered to staff members that chose to participate. Anonymity and confidentiality were assured.

Dependent Measure

The Affective Balance Scale (ABS) was used to assess a global sense of life satisfaction or psychological well-being, (Bradburn, 1969). The ABS was originally developed by the National Opinion Research Center in the early 60's (Bradburn & Caplovitz, 1965). It was further examined and applied to five different samples ranging in age from 21 to 59 (Bradburn, 1969). Test-retest reliability on each item yielded values from .80 to .97.

The Affective Balance Scale (Bradburn, 1969) is a ten-item scale that consists of two five-item subscales, the Positive Affect Scale (PAS) and the Negative Affect Scale (NAS). Each item is answered by a "yes" or "no" response with each "yes" response receiving one point. Psychological well-being is derived from the sum of the negative affect items subtracted from the sum of the positive affect items, producing a range from -5 to +5. A constant of five is added to this number producing scores ranging from 0-10. The total global score for psychological well-being on the scale can range from 0-10 with higher scores reflecting more positive psychological well-being (Bradburn, 1969).

Bradburn (1969) assessed the relationship of numerous independent variables and the ABS, PAS, and NAS. He found that the PAS was related to several indices of social participation from (.10 to .37), sociability (.62), and job status from (.35 to .49) while the NAS was related to indices of worry from (.32 to .49), anxiety from (.55 to .67) and

psychosomatic symptoms from (.54 to .62). The PAS and NAS has an average correlation of .05 to each other indicating that when the two independent dimensions are combined the ABS is a good measure of psychological well-being (Bradburn, 1969).

Independent Measure

The Internal-External Locus of Control Scales, (Internals and Powerful Others), (Levenson, 1974) were used to measure an individual's orientation toward their own personal internal (I) control and their belief that powerful others (P) are in control. Each scale consists of eight items in a six point Likert format with a possible range on each scale of 0-48. The items on the Powerful Others Scale were reversed then summed with the items on the Internal Scale to get a total locus of control score.

The items on each scale differ from Rotter's (1966) Environmental Preference Scale in two important ways. First, instead of the forced choice format on the Rotter's (1966) Environmental Preference Scale, the Likert format was used so that the scales are statistically independent of one another. Second, all the items are phrased so as to pertain only to the individual rather than people in general. Internal consistency is moderately high and compares favorably with those of Rotter (1966). The Kuder-Richardson reliability yielded r=.64 for the I scale and .74 for the P scale. Split-half reliabilities were r=.62 for the I scale

and .66 for the P scale. Test-retest reliability was .64 for the I scale and .74 for the P scale (Levenson, 1974).

Control Measure

The Hollingshead Two-Factor Index of Social Status (Hollingshead, 1975), (Appendix C), was used to control for social status. The two factors are education and occupation. Total social status is calculated for the individual by multiplying the scale value for occupation by a weight of five (5) and the scale value for education by a weight of three (3) then summing the two. The overall factor weight for occupation and education were calculated by the use of multiple regression equations. Computed scores range from a high of 66 to a low of 8. This range remains constant whether based on one or two members of a household or nuclear family. The higher the score, the higher the status accorded by other members of society. The scale was validated against United States Census data in 1970 (Education and Occupation for each Sex reveals a correlation of .84 for males and .85 for females) (Hollingshead, 1975).

Statistical Design and Procedures

A two by three analysis of covariance was used to analyze the three hypotheses presented in this study. Age and locus of control have been selected as independent variables while social status will serve as the covariate. Psychological well-being, the dependent variable, was tested for significance across three levels of age, 30-39, 40-49,

and 50-59 and two levels of locus of control, internal and powerful others, while holding social status constant.

CHAPTER IV

RESULTS

The purpose of this chapter is to present the results of the statistical analysis of the three hypotheses in the study. The emphasis of the study is to examine the relationship of locus of control and age on psychological well-being.

The means on the different levels of locus of control did not significantly differ from the mean ($\bar{x}$ = 68) for the total sample. The total sample mean (68) was therefore utilized as the midpoint for dividing locus of control into level I (internals), and level II (powerful others) for all three age groups. All scores above 68 were level 1 (internals) and all scores below 68 were level 2 (powerful others) (see Table 1, p. 47). There were 12 subjects that scored 68 on locus of control and were deleted in the mean split. Therefore, complete data from 219 subjects were used in the data analysis.

A two by three factorial analysis of covariance was then conducted to analyze the data. The covariate, social status, was not significant ($F=.542$, $p > .05$); therefore, a two by three analysis of variance was utilized to test the three hypotheses.

Table 1

Cell Means, Medians and Standard Deviations of Locus of Control by Age Groups

Locus of control	AGE		
	30-39	40-49	50-59
Mean	69.03	66.36	67.86
Median	68.87	66.66	68.33
SD	8.53	10.92	9.75
	(N=91)	(N=75)	(N=65)
TOTAL			
Mean	67.83		
Median	67.87		
SD	9.72		
	(N=231)		

Test of the Hypothesis

Hypothesis I: There is a significant interaction between age and locus of control on psychological well-being.

A two by three analysis of variance was conducted to test the significance of the two way interaction between age and locus of control on psychological well-being. The test of significance resulted in a nonsignificant interaction between age and locus of control on psychological well-being ($F=2.65$, $p > .05$). The results are presented in Table 2, p. 48.

Table 2

Summary Table for the Analysis of Variance for Psychological Well-Being

Source	SS	df	MS	F
Locus of Control (A)	65.43	1	65.43	16.66*
Age (B)	1.83	2	.92	.23
A x B	20.87	2	10.44	2.65
Residual	838.83	213	3.94	
Total	927.09	218		

* $p < .05$

Hypotheses II: There is a significant main effect for age on psychological well-being.

An analysis of variance was conducted to determine the differences between age groups on psychological well-being. As presented in Table 2, the results yielded a nonsignificant main effect for age on psychological well-being ($F=.232$, $p > .05$).

Hypothesis III: There is a significant main effect for locus of control on psychological well-being.

An analysis of variance was utilized to measure the differences between locus of control on psychological well-being. The analysis resulted in a significant main effect for locus of control on psychological well-being. Table 2, above, presents the analysis which resulted in a significant main effect for locus of control on psychological well-being ($F=16.615$, $p < .05$).

The total mean scores of psychological well-being on the two levels of locus of control reveals a mean difference of 1.09 (see Table 3, p. 50). The internals have a higher level of psychological well-being ($\bar{x}$ = 7.82) than the powerful others ($\bar{x}$ = 6.73). The subjects with a higher level of locus of control, therefore, indicated a higher level of psychological well-being.

The standard deviation (SD) scores of psychological well-being represented in Table 3 (p.50) indicates variability among the psychological well-being scores in each cell. The psychological well-being scores on powerful others (level 2) locus of control seem to vary slightly more than on the internals (level 1) locus of control. A breakdown of each age group reveals very slight differences to no difference in variability of psychological well-being scores on each level of locus of control; 30-39 (difference in SD of .28), 40-49 (no difference in SD), and 50-59 (difference in SD of .58).

Strength of association test, eta^2 was found for the test of locus of control, and yielded a value of .07 (see Table 4, p. 51). Eta^2 is viewed as the percent of variability in psychological well-being that is due to locus of control.

Discussion

Social status was not found to be a statistically significant covariate for the age groups selected. This suggests that the population of Student Services employees

at the university are a fairly homogenious population in terms of social status and that social status as well seems to be fairly constant between the age of 30 and 59.

Table 3

Means and Standard Deviations of Psychological Well-Being Scores by Locus of Control and Age

Locus of control	AGE			
	30-39	40-49	50-59	Total $\bar{X}$
Level I Internals				
Mean	7.87	7.31	8.22	7.82*
SD	1.72	1.96	1.91	
	(N=47)	(N=29)	(N=32)	(N=108)
Level II Powerful Others				
Mean	6.46	7.13	6.57	6.73*
SD	2.00	1.96	2.43	
	(N=41)	(N=40)	(N=30)	(N=111)
TOTAL $\bar{X}$	7.22	7.20	7.42	7.27
	(N=88)	(N=69)	(N=62)	(N=219)

* $p < .05$

Age showed a statistically nonsignificant relationship to psychological well-being. The results indicate a stabilized sense of psychological well-being during middle adulthood. These results are consistent with one theoretical

assumption of Peck (1969) that middle age may represent one of the most stable periods of the life span.

Table 4

Eta^2: Strength of Association Between Psychological Well-Being and Locus of Control

Source	SS	% of variability
Locus of Control	65.43	.07
Total Groups	927.09	

The results provided statistical evidence that there is a significant relationship between locus of control and psychological well-being, with individuals high on locus of control having a higher measure of psychological well-being. Only .07 percent, however, of the variance of psychological well-being can be explained by locus of control.

Although locus of control appears to be a statistically significant cause of psychological well-being in this population, it may not be as important in determining psychological well-being as other variables not measured in this study. These results suggest that there are other variables that may account for the variability of psychological well-being other than locus of control.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Middle adulthood has been considered a significant portion of the life span which has been popularized as an unstable period in which crisis is considered quite common (Gould, 1972; Levinson et al., 1974; Sheehy, 1974). Yet, other researchers (Hayes & Stinnett, 1971; Neugarten, 1976) found little or no crisis especially for the adult expecting the life change. This apparent inconsistency in the research seems to indicate a need to investigate if personal adjustment as measured by locus of control has a significant effect on psychological well-being during middle adulthood.

This investigation studied the effect of age and locus of control on psychological well-being. A total of 541 Student Services employees at a large land grant university in the southwest were surveyed at staff meetings. Anonymity and confidentiality were assured as well as the opportunity to not take part in this study. There were 150 surveys that were deleted from the total group because they were incomplete. These surveys came primarily from food service, maintenance, and housekeeping occupations. Observation of these groups of employees while participating in the study

indicated that it took those employees a longer length of time for completion. This may be because of readability and/or educational level. A total of 160 completed surveys were deleted because the subjects were below age 30 or above age 59. A total of 12 were deleted in developing the levels of locus of control at a mean split. Thus, the usable sample totaled 219. Each employee was asked to complete the survey which consisted of the Internal-External Locus of Control (I and P) Scales (Levenson, 1974), The Affective Balance Scale, (Bradburn, 1969), and The Two-Factor Index of Social Status (Hollingshead, 1975) and demographic variables including age.

A two by three analysis of covariance was used to analyze the data for age and locus of control on psychological well-being while controlling for social status. Since the analysis indicated that social status was not a significant covariate, a two by three analysis of variance was utilized to analyze data for age and locus of control on psychological well-being.

Age did not have a statistically significant effect on psychological well-being. However, results of the investigation indicated that locus of control has a statistically significant effect on psychological well-being. The higher the level of internality indicated a higher level of psychological wellbeing. Only a small amount of the variance of psychological well-being, however, can be explained by locus of control.

Conclusions

On the basis of the results of this study, the following conclusions are drawn:

1. The ages of middle adulthood and locus of control do not significantly interact on psychological well-being. Since Lao's (1974) research found a significant relationship between locus of control and age with internality increasing across the life span, the nonsignificance of this study may be in part due to its limitation to middle adulthood. Additionally, the precision and sensitivity of the dependent measure of psychological well-being, the Affective Balance Scale (Bradburn, 1969) must be questioned. The limited range of the 10-item measure and the fact that it is only a two point scale may have been too restrictive to be sensitive to differences in psychological well-being for this population.

2. Age indicated a statistically nonsignificant effect for the study of psychological well-being. Age may not be a good criterian for investigating changes in psychological well-being in middle adulthood. Instead of psychological well-being varying significantly during middle adulthood, the results indicate a stabilized sense of psychological well-being. The nonsignificance of this hypothesis seems to indicate in this population that psychological well-being is more stable during this period of the life span than some research has projected (Gould, 1972; Levinson et al., 1974, Sheehy, 1974). This could be due in part to the population who have been influenced by a university environment.

The majority of those participating in the study were a highly educated population compared to the diverse educational levels represented in the general population in the United States. Additionally, the nonsignificance of age on psychological well-being may indicate that the significant transitions that effect psychological well-being may occur prior to the age of 30 and after the age of 59.

3. Locus of control has a statistically significant effect on psychological well-being. Those people who scored at a higher level of internal locus of control also scored at a higher level of psychological well-being. The strength of association test indicated however, that only a small amount of the variance of psychological well-being could be attributed to locus of control. The small amount of variance on psychological well-being could be attributed to the two dimensions (negative and positive affect) represented in the dependent measure, the Affective Balance Scale (Bradburn, 1969). Other variables not included in this study, such as health and social participation, may be able to further explain the effect of psychological well-being in middle adulthood.

Recommendations

The following recommendations are presented as a result of the present study:

1. Future research should test the hypotheses in a nonuniversity population. A more diverse population may provide different results.

2. Future research should use the Four-Factor Index of Social Status (Hollingshead, 1975) so that education and occupation levels of both spouses could be considered. There are so many two-career families today that social status of both spouses may greatly effect psychological well-being.

3. Readability of the instruments should be assessed prior to administration. This would allow completion of the instruments by a broad range of educational levels.

4. Future research should assess specific information on issues of middle adulthood (ie. empty nest, death of spouse, career change, etc.) as well as health and social participation to be correlated with psychological well-being and locus of control.

5. Separate Negative Affect Scale and Positive Affect Scale scores as well as the Affective Balance Scale should be investigated to obtain a greater understanding of their relationship to locus of control.

6. To assess psychological well-being with the Affective Balance Scale, a Likert format should be included to expand the degree of sensitivity on each item.

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APPENDIX A

AFFECTIVE BALANCE SCALE

AFFECTIVE BALANCE SCALE

Circle Yes or No on the following statments

During the past few weeks, did you ever feel . . .

Yes No 1. pleased about having accomplished something?

Yes No 2. so restless that you couldn't sit long in a chair?

Yes No 3. that things were going your way?

Yes No 4. bored?

Yes No 5. proud because someone complimented you on something you had done?

Yes No 6. depressed?

Yes No 7. particularly excited or interested in something?

Yes No 8. very lonely or remote from other people?

Yes No 9. on top of the world?

Yes No 10. upset because someone criticized you?

APPENDIX B

THE INTERNAL-EXTERNAL LOCUS OF CONTROL SCALES

THE INTERNAL-EXTERNAL LOCUS OF CONTROL SCALES

Circle the number to the right of the statement that you think best represents the degree of your belief in that statement. One represents hardly ever and six almost always.

		Hardly ever					almost always
1.	Whether or not I get to be a leader depends mostly on my ability.	1	2	3	4	5	6
2.	I feel like what happens in my life is mostly determined by powerful people.	1	2	3	4	5	6
3.	Whether or not I get into a car accident depends mostly on how good a driver I am.	1	2	3	4	5	6
4.	When I make plans, I am almost certain to make them work.	1	2	3	4	5	6
5.	Althouth I might have good ability, I will not be given leadership responsibility without appealing to those in positions of power.	1	2	3	4	5	6
6.	How many friends I have depends on how nice a person I am.	1	2	3	4	5	6
7.	My life is chiefly controlled by powerful others.	1	2	3	4	5	6
8.	People like myself have very little chance of protecting our personal interests when they conflict with those of strong pressure groups.	1	2	3	4	5	6
9.	Getting what I want requires pleasing those people above me.	1	2	3	4	5	6
10.	If important people were to decide they didn't like me, I probably would not make many friends.	1	2	3	4	5	6
11.	I can pretty much determine what will happen in my life.	1	2	3	4	5	6
12.	I am usually able to protect my personal interests.	1	2	3	4	5	6

		Hardly ever					almost always
13.	Whether or not I get into a car accident depends mostly on the other driver.	1	2	3	4	5	6
14.	When I get what I want, it's usually because I worked hard for it.	1	2	3	4	5	6
15.	In order to have my plans work, I make sure that they fit in with the desires of people who have power over me.	1	2	3	4	5	6
16.	My life is determined by my own actions.	1	2	3	4	5	6

APPENDIX C

THE TWO-FACTOR INDEX OF SOCIAL STATUS

THE TWO-FACTOR INDEX OF SOCIAL STATUS

Age: _____

Circle highest grade of school completed:

Elementary School	High School
1 2 3 4 5 6 7 8	9 10 11 12

Circle years of College or Specialized Training

1 2 3 4

Did you graduate from a college or university?

(Circle one) Yes No

Circle years of Graduate School or Professional Training

1 2 3 4 5 6 7 8

VITA

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Candidate for the Degree of

Doctor of Education

Thesis: THE RELATIONSHIP OF PSYCHOLOGICAL WELL-BEING TO LOCUS OF CONTROL IN MIDDLE ADULTHOOD

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