THE ROLE OF PERSONALITY AND INTIMACY WITH DEPRESSION IN ELDERLY WIDOWS

A Dissertation

by

DOYLE T. MARRS

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

December 2005

Major Subject: Counseling Psychology

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Approved by:

Chair of Committee,	Michael Duffy
Committee Members,	Donna Davenport
	Michael Speed
	Collie Conoley
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ABSTRACT

The Role of Personality and Intimacy with Depression in Elderly Widows.

(December 2005)

Doyle T. Marrs, B.S., Texas A&M University;

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Chair of Advisory Committee: Dr. Michael Duffy

As the average age of the population in the United States gets older each year, the problem of depression has been recognized as a chronic problem that affects the quality of life and mental health of many of our nation's elderly. Widowed females, who represent the largest segment of older adults, are particularly at risk for suffering from depression in their elder years. One of the primary difficulties in treating depression in this population is lack of understanding of the factors that contribute to its etiology, in the context of an environment which restricts development of social relationships and limits resources for treatment of depression symptoms. This study examined the reported levels of interpersonal intimacy, depression and the personality characteristics of introversion or extroversion, and examined the relationship between the three factors. Results indicated that, with this study sample (N=99), 23.2% of the sample met cut-off scores indicating depression. Overall, the participants reported being satisfied with their current level of intimacy in relationships; however those who also reported being depressed were less likely to be satisfied. Likewise, those participants who were depressed were more likely to be in the introvert group of personality characteristics. There was no significant relationship established between satisfaction with intimacy and

the personality traits. The study showed that the variables examined, including some demographic variables, were correlated, but more work and a larger sample is needed to allow the variables to be used for the purpose of prediction of depression or satisfaction with intimacy in this population.

DEDICATION

This dissertation is dedicated to my family, and the three people who sacrificed the most for its completion, my wife Judy and my children, Mason and Truett.

ACKNOWLEDGMENTS

My interest in this field, and particularly with this population, began in 1990 after my grandfather died. He left behind his wife of 48 years, and I watched as my grandmother went through major life changes, and even personality changes, after his death. Since then, I have maintained a curiosity about what I observed occurring with her, and after developing sensitivity to her issues, I observed occurring with many of the older women I have come into contact with, both personally and professionally. There have been times when I have felt inept and helpless to do anything, as I saw depression affect the health and quality of life of the elderly women in my immediate and extended families, as well as in a service capacity. This dissertation is the result of those feelings, and of the need to shine a light, no matter how small, on the nature of the difficulties that these women endure, suffer, and triumph through.

I would like to acknowledge and thank the people who have played an important role in this study. Vince Dutchmascalo, past activities director at Grand Court Retirement Community, enthusiastically helped me collect data from the residents there, answering questions and maintaining a helpful professionalism that made my job a pleasure. I also thank the efforts of Sharon Zambrychi, former director of Bluebonnet House retirement home, Peggy Nadeau, director of Millican House retirement home, and Marilyn Johnson of Crestview Terrace apartments for their support in granting me access and giving me support in collecting data at their facilities.

In addition, I would like to thank both the residents and the staff at the data collection sites. They all gave me valuable insight into collection techniques, as well as wonderful exploration and input to the variables as well as many inherent confounds

associated with this type of exploratory study, and without them, it would not have been possible.

I would like to thank my doctoral committee members. Dr. Collie Conoley, who joined my committee in my hour of need, Dr. Michael Speed, who is a wonderful friend and went out of his way to help with all things statistical, Dr. Donna Davenport, who encouraged, supported, and has held the esteemed position as my mentor-in-general, and finally, my chair, Dr. Michael Duffy, who's support, guidance, and amazing intuition in the field of Geropsychology has motivated and inspired me.

Last, but not least, I would like to thank the members of my academic cohort. Drew, Brent, Minette, Jennifer, Saori, Clint, Mia and Josh all provided unyielding support for four years, and served as the sounding board and the information service for the entire research and dissertation process. I owe each and every one a debt of gratitude for their help and friendship.

TABLE OF CONTENTS

CHAPTER Page

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

The Problem

The population in the United States is getting older. The U.S. Bureau of the Census (1998) estimates that by 2010, 39 million people, or roughly 13% of our population, will be over 65 years old, and by 2030, that number will reach 69 million, or 20% of our population. This is a dramatic increase over the Bureau's 1990 estimation that there were 31, 241,831, or 12.6%, over the age of 65 in 1990. Besides the changing age demographics of our society, many of our ideas about the stage of late adulthood and old age are changing rapidly as what has become commonly called the "baby boom" generation redefine what it means to be in late adulthood, and change previous perceptions and norms.

This developmental shift significant impacts the need for care in the older adult population. The needs of elderly women, constituting the majority group in this age population, are a particularly salient issue in our society. This trend of increasing resources will only continue to grow (Palley, 2003), impacting the field of mental health. As dictated by mortality rates, older women are the dominate sector of elderly adults, and the majority of these have been or will be widowed in their lifetime (Goldman, Korenamn, & Weinstein, 1995). In fact, currently elderly widows out-number widowers at the rate of 3 or 4 to 1, as women continue to live, on average, significantly longer than

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This dissertation follows the style of *Psychology and Aging.*

men (Crose, 1999). You need only to visit any nursing home or residential retirement community to see that the majority of residents are widowed females. Current research has indicated that this generation of older adults approach mental health differently than earlier generations, and are more likely to be accepting of mental health services (Moreno & DeForge, 2004).

With the total number of residents and facilities rising and elderly widowed females currently predominating in those residential care facilities, the question of how best to serve this population becomes increasingly important. As the baby boomer generation enters old age, there appears to be major shifts in attitude, expectations, and developmental norms. As this occurs, gaps become apparent in how to best to approach treatment of psychological dysfunction, as well as how to mitigate problems that lessen the quality of life of older persons. If we hope to provide the best quality care for this growing segment of our population, we must re-examine our approach and adapt to the changes in a cohort that has extended middle age, attempted to defy the limitations of old age, and holds more open views about what behaviors are demanded and accepted in older adulthood.

While adults currently in their fifties and sixties appear to be re-defining the arbitrary age boundaries of what is considered old age and also appear to be more open to making changes that they perceive might improve their quality of life, two limitations exist. First, while baby-boomers might be more likely to value and utilize mental health services, the resources must be in place to be utilized. Second, we cannot assume that mental health issues that currently affect some elderly women might diminish because of a change in the developmental definitions or expectations of older adulthood. Factors

that influence psychological and psychosocial stress will still be influenced. So while it seems hopeful for the current and upcoming generations of elderly women to be receptive to help, we still have the task of determining *how* to help, and examining what factors influence the problems specific to this population.

According to Harpole and Williams (2004), one of the most pervasive mental health problems experienced by elderly adults is depression. In fact, they estimate that 5-10% of elderly patients who are seen by a primary care physician suffer from clinically significant depression. More specifically, this problem has long been reported as a particularly pervasive problem among elderly widows (Smith, 1978). The problem that mental health providers currently appear to face is a lack of understanding of the factors that contribute to depression with elderly widows, resulting in less effective screening for women who might be at higher risk of suffering from depression. This is true for caregivers from family members to physicians, retirement facility staff to mental health professionals. With little understanding of the contributing factors to depression in elderly widows, treatment is often limited to less effective ex post facto treatment instead of a proactive, preventative approach.

Diagnosis and treatment of depression in women has been conducted in the same manner as in any adult population. However, it is clear that the elderly have a very specific set of etiological circumstances. Specifically, some studies (Conroy, 1977; Weismann, et al., 1996)) have indicated that widows in general are at higher risk for depression, so it is not unreasonable that this might constitute a specific predictive factor for depression in elderly widows. However, we do not know if there is a higher rate of depression, a difference in severity, a difference in the ability to function, suicidality,

recovery rates, and responsiveness to medication or other factors that might be different when the widow is elderly. There also might be other contributing factors experienced in this age group that could affect the course and treatment of the depression. For example, elderly women are often faced with fewer options for social and emotional support (Adams, Sanders, & Auth, 2004). An elderly widowed woman often may have more restrictions in making social contacts and developing new interpersonal relationships, have serious financial limitations, and access to fewer resources in general that a younger woman might have if she were widowed and still working, able to drive, able to pay for mental health or other services, as well as greater opportunity for social contact.

There is some evidence that suggests that marital satisfaction can vary greatly in couples who have been married for many years (Feeney, Peterson, & Noller, 1994). Even an elderly married couple may not experience a high degree of marital satisfaction, including experiencing interpersonal intimacy. If we assume that all people need interpersonal intimacy, at whatever level, then do elderly widows have more difficulty in meeting that need? Whether by the loss of a husband, loss of friends and family, depression, or even the isolation associated with moving into a residential care facility, it seems plausible that elderly widows are at risk for not meeting needs of interpersonal intimacy in late adulthood. Without knowing what factors can affect depression in this population, we do not know what effect this might have on their mental health and functioning.

In examining the factors affecting depression, and the ability of an elderly widow to develop intimate relationships, we have little idea how individual personality style might

affect both of these factors independently or as covariates. Excluding cases where individuals suffer a stroke which can have the affect of profoundly altering the person's personality (Stone, et al., 2004), we have little indication of how personality traits can affect ability to function in different circumstances and in the very different environment that old age and widowhood often bring. If personality can affect an elderly woman's ability to make social connections, or perhaps even affect psychological resilience, then it certainly could be imagined that it could effect both depression and getting intimacy needs met.

As the population in the United States gets older, with the largest percentage of this population being widowed women, the lack of knowledge about what factors affect mental health, and what factors ultimately can affect quality of life and overall functioning and happiness in older adulthood is becoming more apparent and more critical to explore. The challenge is to understand contributing factors in problems pervasive in this population, such as depression. Through exploration of these factors mental health providers, physicians, and care givers will be able to construct paradigms for assessment of risk factors, treatment, and relapse prevention of depression.

CHAPTER II

LITERATURE REVIEW

One of the primary care issues for our aging population of women is the psychological result of the loss of a spouse or partner (Goldman, Korenman, & Weinstein, 1995; Brock & O'Sullivan, 1985) . For many, loss of a spouse in late adulthood causes a loss of a woman's primary source of intimacy. As reported by Barrett, (1981), this can have a serious impact on the emotional functioning, health, and general happiness of the elderly widow. There are several key things to note in this regard. First, the concept of intimacy is developmental. Crose (1999) states that later life brings changes in intimate relationships, how intimacy is expressed, and what aspects of it are most important. Early in a woman's life, when body image is a primary factor in the development of an intimate relationship, sex and romance take the center stage as primary indicators of intimacy (Crose, 1999). As a woman ages, sex is still an important aspect in terms of the meaning sex carries for intimacy in a relationship. However, as a couple adjust to physiological changes that come with late adulthood, intimate companionship becomes the focus and the more rewarding expression of intimacy in relationships (Barrett, 1981). It seems that with the current group of older adults, there are differences in the manifestation of both sexual and non-sexual intimacy to the point where the task of defining intimacy among late-life relationships is more easily accomplished by defining what is actually done rather than by comparison to the expression of intimacy in earlier age groups. With the loss of a spouse most women experience a major loss in the availability for intimacy in any capacity, as they attempt

to re-establish connections outside of those dependent on the marital relationship they had with their husband (Lopata, 1985). Regardless of age, or length of experience as a widow, intimacy is still an important part of healthy psychological and social functioning (Crose, 1999). Some research has indicated that the ways in which widows attempt to meet their new needs for intimacy vary widely (Crose, 1999). Fortunately, it also appears that with the de-emphasis of sexuality as the primary means of expression of intimacy, elderly women make use of a wider array of sources to satisfy their needs. Often times, widows have found intimacy in other familial relationships, in relationships with care givers, old friendships that were developed as part of their marital relationships, and with same and opposite sex peers (Brock & O'Sullivan, 1985; Lopata, 1985). In fact, same-sex peer relationships often become the primary source for this population, simply as a result of availability (Crose, 1999). Research has also indicated that older adults do not cease being sexual beings as they enter older adulthood, and it seems to follow that for many women, intimacy with their husbands is based at least in part on sexuality. With few similar-age men with which to re-establish sexual intimacy, some explore different forms of sexuality with other women (Malatesta, et al., 1988; Crose, 1999).

However, the factors that affect a widow's ability to find relationships in which she can establish intimacy is, in large part, overlooked in the literature. Given that this population often expresses a wider range of sources of intimacy, the ability of the individual to seek out and find sources of intimacy is certainly a key factor. This could be factors of decreased mobility, health problems, or even restricted access to other people.

Another factor, which has not been examined in the literature, is a matter of individual personality differences that might affect a woman's ability to initiate and maintain a relationship with a satisfying level of intimacy, or perhaps even affect her desire for such a relationship. This seems particularly pertinent if the woman has only developed or maintained a close relationship with her spouse. Recent research (Morse & Robbins, 2005) suggests that personality traits as a whole can greatly affect depression levels in later life, but little is known about the effects personality traits might have in an elderly woman's ability to get intimacy needs met. Although to date there has been no research focusing on specific personality traits associated with levels of depression or intimacy with older adults, it work by German researchers Körner, Geyer, Gunzelmann, & Brähler (2003) found that when compared to a sample of adults age 18-60, those over 60 were significantly more likely to have introvert personality characteristics than those under age 60. Considering previous research supporting a higher level of depression with elderly widows (Conroy, 1977; Smith, 1978; Saur, 2002), more research is needed to determine if introversion or extroversion play a part not only in depression, but also in an elderly woman's ability to get intimacy needs met after the loss of her husband

The next area of literature examines what happens when the elderly widow is not satisfying her need for intimacy. It is important to note that individual levels of intimacy are idiographic, and so what is ultimately important is if the woman feels her needs are being met in relation to her own expectations. However, we know little about what the psychological affects might be when a woman loses her husband and is either unable or unwilling to reconnect interpersonally at an intimate level? Research in this area suggests that older adults may experience depression, despair, and isolation (Gubrium,

1975; García, et al., 2005). In fact, it has been shown that individuals in independent living retirement communities often have a more difficult time establishing intimate relationships, and thus are often at higher risk for mental health concerns such as depression. In fact, Adams, et al. (2004), found that among a population of Spanish elderly residing in assisted living communities, most residents had developed social relationships, however those that who failed to do so experienced "a decline in quality of life similar to or greater than that associated with osteoarthritis". Crose (1990) supports this notion and outlines a therapeutic intervention model to re-establish and maintain intimate relationships among nursing home residents. However, this and other research (García, 2005; Adams, 2004; Goldman, Korenman, & Weinstein, 1995; Malatesta, et al., 1988; Lopata, 1985; Brock & O'Sullivan, 1985) does not examine whether widowed residents who are inside community settings (which constitute the majority), have similar needs and patterns of intimacy as these other institutionalized groups of elderly adults, and how lack of intimacy can affect mental health.

The next question becomes the prevalence of mental health problems in this population. Harpole and Williams (2004) indicate that it is often more challenging to diagnose depression among elderly because depressed mood is less prominent and there are age related symptoms such as sleeplessness, anergia, and loss of appetite that are present with some individuals but do not necessarily indicate depression. They suggest that likely 5-10% of elderly patients who visit primary care physicians experience clinically significant depression. Saur, et al. (2002) also suggest that depression in older adults is often seen as a normal part of aging, is stigmatized among the patients themselves, and a lack of time and resources on behalf of primary care physicians often

leads to depression being under-recognized and under-treated. Despite the results of these studies, and faced with the fact that the fastest growing segment of the United States population is over 65, research still indicates that only 15% of total national mental health and substance abuse monies go toward treatment of elderly adults, and only 51% of those funds went to mental health care specialists (Harwood, et al., 2003).

In a 1978 study, W.J. Smith found that elderly widows experience about the same level of depression eighteen months after the death of their husband as women under age 65. The study indicated that initial depression after the loss of a husband was less with elderly widow because of prior life experiences with death. However, younger women have a wider support system than do elderly women, and so 18 months after bereavement the younger women appear to find support and begin to re-establish close relationships, where elderly women often do not have the same opportunities. Conroy (1977) also suggested that widowhood itself is a predictor for depression, and that that factor alone can affect social functioning thereafter, possibly prolonging depression. These studies do not indicate, however, the effect of living in assisted living communities, where residents may or may not have more opportunity to re-establish intimate relationships. Also, they do not examine the affect that introverted or extraverted personality characteristics might have on relationship development and severity of depressive symptoms.

Research indicates that depression among elderly, and particularly among elderly widows, is a problem that is under-reported, under-treated, and affecting more individuals each year. However, there is currently no research that has examined how an elderly widow's satisfaction with her level of intimacy in relationships is associated with

her experience with depression, as well as no indication of how introvert/extravert personality features can affect interpersonal functioning and mental health issues such as depression. To understand the factors that might contribute to or exacerbate depression in elderly widows, these other factors should be examined as part of screening for depression.

Statement of the Problem

The identification of factors that could be used to aid in predicting which members of this population might be at risk for depression is important to friends and family members, care providers, and most importantly to the women who suffer, or might suffer, from depression in old age. As people live longer and the percentage of elderly widows rises, the number of elderly suffering from depression is expected to grow (Bartels, et al., 2003; Saur, et al., 2002). It is clear the issue of recognizing factors that might indicate a predisposition for, or contribute to, mental health issues has become salient and critical for service delivery. We know that social relationships are also important to the functioning of people of all ages, and that interpersonal intimacy is certainly an important part of those relationships. There is currently a lack of knowledge about how social and personality factors might affect levels of depression in the elderly widows. In fact little is known about how satisfied elderly widows, who have lost a source, if not the only source, of intimacy are with their current level of intimacy in relationships. This exploratory study examined possible associations between elderly widows' feelings of satisfaction with intimacy in current relationships and a clinical level of depression, as well as how the personality factor of introversion/extroversion might be associated with these factors.

Research Questions

1. Do elderly widow participants feel that their current individual need for non-sexual intimacy is being met, as measured by the Personal Assessment of Intimacy in Relationships?
2. What is the clinical level of depression in this sample, as measured by the Geriatric Depression Inventory?
3. Is there a significant relationship between personality (introversion and extroversion), as measured by the Myers-Briggs Type Indicator, and depression?
4. Is there a significant relationship between participants' feelings of satisfaction with the level of intimacy and depression?
5. Is there a significant relationship between participants' feelings of satisfaction with the level of intimacy in their current relationships and their personality characteristics of introvert/extravert?
6. What set of research and demographic variables best explains participants' level of satisfaction with intimacy?

CHAPTER III

METHOD

Participants

Participants for this study were residents at four residential facilities in Brazos County, Texas, including a combination of both independent and assisted living facilities. The facilities used in this study suited the research objectives well for several reasons. First, they were a convenient and willing sample source. Second, the structure of the organized residential community enhanced communication and ability to collect the completed questionnaires, and third, the residents at these facilities is limited to those individuals who are functioning at a level high enough to correctly complete the questionnaire without assistance. Associated with these factors however, is the socio-economic status of this sample source. The residents at independent and assisted living community facilities are generally considered higher S.E.S., as a result of the cost associated with living in a voluntary apartment-style facility that provides numerous services in order to be competitive. Populations at these local facilities are also historically comprised primarily of white residents, again based on the socio-economic status of the members of this age segment of the population.

Potential participants (female and widowed) were identified by staff at each location, and individuals were either hand delivered questionnaire packets, or the packets were placed in the mail slots provided to the residents by the facility. Participants were asked to volunteer for participation in the study after reading an introduction to the study, and were asked to complete a brief demographics questionnaire to insure that the participant met the requirements of 1) being age 65 or over, 2) being widowed and not

currently married, and 3) being a resident of an assisted living or independent living facility. Participants were then selected based on meeting the requirements of the study and on having completed the entire questionnaire. A total of 215 questionnaire packets were handed out, resulting in a sample size of 147. Forty-eight were eliminated as a result of the participant not meeting the demographic parameters of the study or of an incomplete/improperly completed questionnaire. This resulted in a final sample size of 99.

Measures

Questionnaires were typewritten, large text (16 font), and comprised of the fifteen questions of the Geriatric Depression Scale, Short Form (GDS-Short), thirty selected questions from the Personal Assessment of Intimacy in Relationships (PAIR), and twenty-one questions that make up the introvert/extravert scale on the Myers-Briggs Type Indicator (MBTI). Data was also collected using seven demographic items.

Myers-Briggs Type Indicator, Introvert/Extravert Scale

The Myers-Briggs Type Indicator, Form M, was developed in 1998 by Katherine C. Briggs and Isabel Briggs Myers and is a pencil and paper self-report intended to provide an in-depth personalized account of personality preferences. Of the 93 total questions on the measure, this study included the 21 specific questions that form the Introvert-Extravert Scale, which is intended to measure an individual's introvert or extravert personality traits (Briggs, et al, 1998). The authors report Spearman-Brown corrected test-retest reliability for the Introvert/Extravert Scale as 84 for females in general, and 82 for both sexes age 60+. Construct validity is presented in terms of correlations with other measures which examine introvert/extravert characteristics, and range from

-.77 to -.40. Based on the number of items endorsed that belong to a category, the scale provides a range of four levels of introversion/extroversion including slight, moderate, clear, and very clear, to give an indication of the strength of introvert or extravert qualities of the individual's personality. For data analysis purposes, this study used dichotomous categorization of participants of introvert or extravert, based on which trait had the majority of endorsed questions.

Personal Assessment of Intimacy in Relationships

The Personal Assessment of Intimacy in Relationships (PAIR) was developed by David H. Olson and Mark T. Schaefer (1981), revised in 2000. The measure uses an operational definition of intimacy that extends beyond self-disclosure aspects of intimacy and includes closeness and sharing of experiences such as activities and other interpersonal relationships, which suited the purpose of this study and the nature of the population well. The PAIR is a 72 item instrument, which uses five level Likert scale questions, and is designed to assess intimacy on two 36 item major scales, perceived (actual) level of intimacy in current relationships, and expected (ideal) level of intimacy they wish to have in current relationships. The Likert scales range from strongly disagree (0) to strongly agree (4), with higher scores indicating more satisfaction with the question subject. The questions on the two scales differ only by semantic changes that indicate a shift from what is currently experienced (actual) to what the individual prefers she had (ideal). For example, question two on Part 1 reads "We enjoy spending time with other couples". Question 2 on Part 2 reads "I wish we spent more time with other couples". For the purposes of this study, only the questions from Part 1, the individual's perceived current level of intimacy, were used so that an idiographic self-

report of the individual widow's current feelings of satisfaction with her level of intimacy could be assessed. With permission from the authors, slight wording changes were made to illicit a response about the person with whom they currently feel the closest, rather than specific language that was intended for a romantically intimate couple. For instance, "partner" in the original sentence was substituted with "the person I am closest to". The authors of the PAIR report that the purpose of the measure is not to establish an ideal, or even a normal range of intimacy, but instead to determine a difference score between what an individual in a relationship wishes an intimate relationship was like, and what they perceive it is actually like. In this study, it was more useful simply to determine the individual's perception of current as opposed to previous relationships, which also may or may not have had a high level of intimacy. In this study, each scale was considered as a continuous variable, using the average score of all the questions on the scale. In this way, there is no cut-off for "satisfied" or "unsatisfied", only a continuum of more or less satisfied to indicate the strength of the association between the other variables.

The overall PAIR score has six 6-item subscales. The alpha reliability of the overall measure and each intimacy subscale is as follows: Overall (.726), Emotional (.75), Social (.71), Sexual (.77), Recreational (.70), Intellectual (.70), and Conventionality (.80) (Olsen & Schaefer, 2000) . The sexual intimacy scale was omitted in this study for two reasons. First, because of the age of the sample, Institutional Review Boards indicate this is an "at-risk" population, and discourage questions that require participants to discuss sexuality, and second, because of the living arrangements of this population and the lack of availability for opportunity to develop sexual intimacy

and therefore would have less inherent variation in responses. In the assisted living facilities used in this study, it is against the rules for a member of the opposite sex to be in a resident's room with the door shut. The Conventionality Scale is also considered to be a measure of reliability. The scores from the Conventionality Scale are included in the overall scale score, but the authors state that they are not intended to be interpreted individually for any reason other than a way to detect feigning positive responses ("faking good") when, for example, used in a couples counseling setting. For this reason, the Conventionality Scale was included in the total PAIR score calculation, but not used as a separate scale in the analysis.

Geriatric Depression Scale, Short Form

The Geriatric Depression Inventory, Short Form (Sheikh & Yesavage, 1986) is designed as a screening instrument to measure intensity of depression in geriatric populations, and has been used extensively in community, acute and long-term care settings. It is a pencil and paper self-report measure consisting of 15 yes/no answers, with a cutoff range from of 4-7 "yes" answers on the 15 items indicating some level of depression. The authors indicate 4 "yes" answers as cause for concern, 5 as probable depression, and 6 or 7 confirming the suspicion. For the purposes of this study, 6 was used as the statistical cut-off score to indicate if the participant is depressed or not depressed. Although the raw score of the GDS (Short) is a continuous variable, the cut-off scores were used to make the results a dichotomous variable. For purposes of calculating correlation to the other variables, this study used only what is considered a clinical level of depression. This was done in hope that if a correlation does indeed exist, it would most likely be shown with the highest level of depression.

The Geriatric Depression Scale, Short Form, was found by the authors to have a 92% sensitivity and 89% specificity when evaluated against depression diagnostic criterion and has been supported by clinical practice as well as research (Sheikh, et al., 1991).

Procedure

Questions from each dependent measure, a brief demographics questionnaire (see Appendix A), and an informed consent were combined in envelopes along with instructions and an explanation of the study attached to the front of the envelope. All type was printed in 16 point font for ease in reading and answering. A monetary incentive of a two dollar bill was attached to the front of all questionnaires inside the packet, with instructions that they could keep the money as a "thank you" for their time in reading the information sheet, whether they decided to complete the questionnaire and participate in the study or not. Likewise, the confidential nature of the study was explicitly stated, so the reader would understand that in no way would the identity of the person completing the questionnaire be revealed, nor would the raw data be made available to any facility staff or person not associated with the study. Those choosing to participate were asked to complete the entire questionnaire, without giving name, address, or any identifying information, and place it slot in a locked depository located in the mail area of each facility. After potential participants were identified by staff and questionnaires were disseminated to them, each week for three to four weeks the researcher would collect the deposited questionnaires form the locked receptacles.

Analysis

Analyses were conducted using all questionnaires that indicated the participant was age 65 or over, single, widowed, and living in an assisted living or residential community, and correctly completed questionnaires. Analyses of the data were aimed at answering the following questions: 1.) What level of satisfaction with intimacy does this sample report? 2.) What percentage of this sample reports clinical levels of depression? 3.) Is Introversion/Extroversion correlated with depression? 4.) Is personality style correlated with level of satisfaction with intimacy? 5.) Is the level of satisfaction with intimacy correlated with depression? 6.) What research factors and demographic variables best explain the variation in scores on the PAIR intimacy satisfaction measure?

Data analyses involved multiple univariate analysis of co-variance (ANCOVA) to determine if there are statistically significant between-group differences among depressed and non-depressed, introvert and extravert, and the continuous variable of satisfaction with intimacy and its subscales as the dependant variable. ANCOVA's were calculated using all individual variables and possible combinations of variables, then removing the least significant of them one at a time until the highest total R squared value was obtained. The tables for the resulting between-subject effects and the corresponding graphs are located in Appendix F. Question (3) above was calculated using a cross tabulation and chi-square test. For analyses of all other continuous variables, descriptive statistics were run, and are located in Table 1. For all other discreet variables, frequency distribution tables were calculated and can be found in Table 2. All calculations were performed using SPSS v.13 software.

CHAPTER IV

RESULTS

The Sample

The study sample consisted of 99 female residents at local Brazos County, Texas independent and assisted living communities, who voluntarily submitted a completed questionnaire and who met the restrictions for inclusion in the study sample. The mean age of the sample was 80.43, the standard deviation was 9.05. The sample was 91 percent White, 6 percent Black, 2 percent Hispanic, and 1 percent Asian. Table 1 presents the descriptive statistics for other sample characteristics which was gathered as part of the demographics portion of the questionnaire.

Table 1
Participant Characteristics

	Range	Upper	Lower	Mean
Age	37	102	65	80.43
Length of Time Widowed	50	50	1	13.36
Length of Time in Assisted Living	17	17	<1	3.51

	White	Hispanic	Black	Asian
Ethnicity (# of respondents)	89	6	2	1

	Staff Member	Family Member	Friend in Residence	Friend Not Near	Pet	Other
Closest Relationship	5	61	27	4	2	0

N=99

Results

Question 1 (What level of satisfaction with intimacy does this sample report?)

Figure 1 below is the box plot which represents the range, median, and mean of the results of the overall score of the Personal Assessment of Intimacy in Relationships. The

Y-axis of the box plot represents the 5-point range of answers found on the PAIR. (see Appendix D). All data was transformed to that 0 relates to total dissatisfaction with intimacy in the relationship, and 4 relates to complete satisfaction with intimacy. A score of 2 represents uncertainty or neutrality, while anything above 2 indicates being overall more satisfied than unsatisfied, anything below 2 more unsatisfied than satisfied.

Figure 1. Results of PAIR Scores for the Sample.

The mean and median overall PAIR score of this sample was well in the range of being more satisfied than unsatisfied with their subjective level of satisfaction with intimacy in their relationships.

Question 2 (What percentage of this sample reports clinical levels of depression?)

Table 2 below represents the resulting frequency distribution of the Geriatric Depression Scale (short form). Results reflect the number and percentage of participants (23.2%) who endorsed 6 or more depression-indicating items on the measure, which was used as the cut-off score to indicate a problematic level of depression, and those that endorsed 5 or fewer items and did not meet the threshold.

Table 2
Frequency of Depression in the Sample

	Frequency	Percent	Cumulative Percent
Not Depressed	76	76.8	76.8
Depressed	23	23.2	100.0
Total	99	100.0	

N=99

Table 2 indicates the frequency of those individuals who met the cut-off score for clinical depression by endorsing 6 or more items on the GDS (short form). The mean for the number of questions endorsed by all participants who completed the measure however, was 3.64 questions endorsed with a standard deviation of 3.27 and a range of 0—14 questions endorsed.

Research Question 3 (Is Introversion/Extroversion correlated with depression?)

Question 3 was answered by determining if a relationship exists between respondents who reported elevated levels of depression and between personality categories of introvert and extravert, a cross-tabulation was calculated to see how participants responded to the two measures jointly. The results of this cross-tabulation,

as well as the percentage of sample respondents who were found to be introverts or extraverts based on MBTI scale score, can be found in Table 3 below.

Table 3
Personality and Depression Cross-Tabulation

		Not Depressed	Depressed	Total
Personality Characteristic	Extravert	47	4	51
	% within sample	*92.2%*	*7.8%*	*100%*
	Introvert	29	19	48
	% within sample	*60.4*	*39.6*	*100%*
Total		76	23	99
	% within sample	*76.8%*	*23.2%*	*100%*

N=99

To determine if the relationship found in Table 3 was statistically significant, a chi-square test was run, and can be found in Table 4. Results indicate that a statistically significant relationship exists between the two factors, with the introvert group being significantly more likely to be in the depressed group and the extravert group being significantly more likely to be in the non-depressed group ($\alpha < .01$).

Table 4
Personality and Depression Chi-Square Test

	Value	Degrees of Freedom	Asymptotic Significance*	Exact Significance*
Pearson Chi-Square	13.968	1	.000	
Continuity Correction	12.245	1	.000	
Likelihood Ratio	14.844	1	.000	
Fisher's Exact Test				.000
Linear-by-Linear Association	13.827	1	.000	

N=99
*2-sided

Question 4 (Is personality style correlated with level of satisfaction with intimacy?)

Level of satisfaction with intimacy and personality characteristics were compared to determine if a relationship exists. Results indicate two important features of the interaction between these factors. First, both introvert and extravert personality characteristics had overall PAIR scores that were above the "neutral" cutoff, well into the "satisfied" region of the score range. Second, within the results of the between-subjects effects model (found in Appendix F), the statistical difference between the level of satisfaction with intimacy was found to be associated with personality characteristics at α=.082. Because of the exploratory nature of this study and a lack of understanding of the sensitivity of the dependent measures used with these factors, this is still a noteworthy alpha level between these factors. Further possible reasons for this particular factor association alpha level >.05 are discussed in Chapter V of this study. It is clear that while this individual alpha level is >.05, in the between-subjects effects model (Appendix F) the association between overall satisfaction with intimacy and personality are significant, as the highest possible adjusted R-squared for the model (.313) is only possible with inclusion of the interaction between these two variables. The box plot for the interaction between these two individual variables is located in Figure 2. The analysis of the data does not indicate which personality characteristic, introversion or extroversion, is more strongly associated with the overall level of satisfaction, but it does indicate that there is a 91.8% chance that the association is not random.

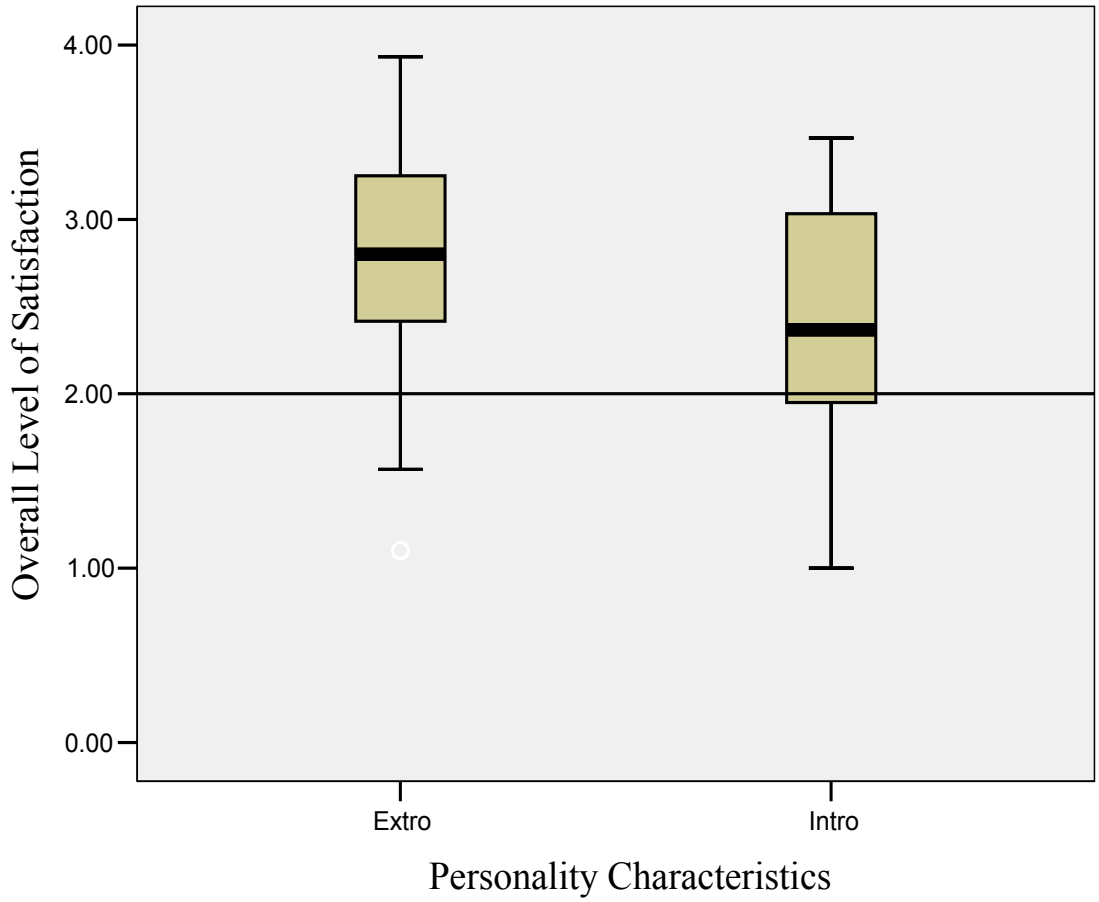

Figure 2. Personality Characteristics X Intimacy Scores

Question 5 (How well does level of satisfaction with intimacy predict depression?)

When the interaction between level of satisfaction with intimacy and level of depression was examined, a much stronger association was found. The results of this analysis, which answer research question 5 indicate that there is a statistically significant inverse association ($\alpha<.01$) between the sample's satisfaction with relationship intimacy and elevated levels of depression. Individuals in this sample that reported elevated

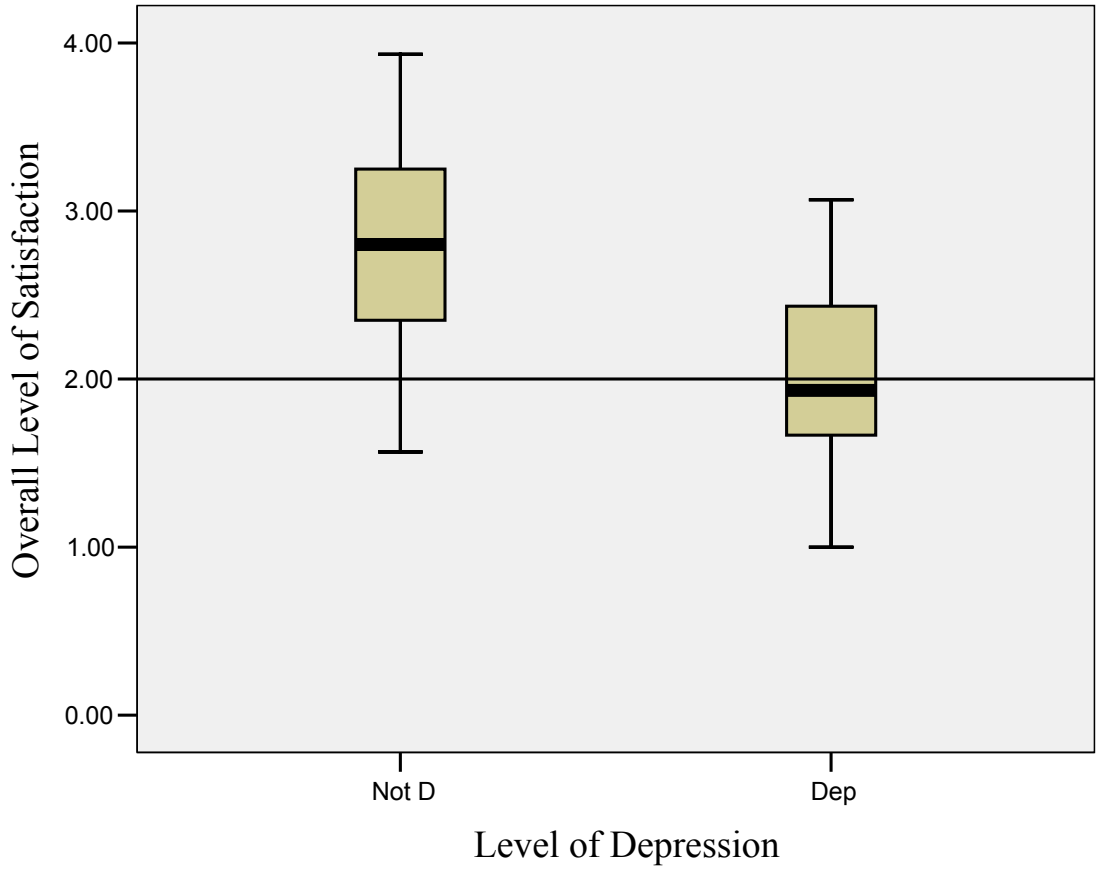

Figure 3. Depression X Intimacy Scores

levels of depression were more likely to score in the "unsatisfied "range on the PAIR than those who were not depressed. As Figure 3 illustrates, respondents who failed to meet the cut-off score indicating depression on the GDS (short form) all scored in the "satisfied" range on the PAIR, while the average score of the depressed group was in the "unsatisfied" range.

Question 6 (What research factors and demographic variables best explain the variation in scores on the PAIR intimacy satisfaction measure?)

To answer research question 6, a series of general linear model tests of between-subjects effects were run using all factors and combination of factors, each with a

different set of PAIR scores. One analysis was run using the total PAIR score, and then each individual subscale of Recreational, Emotional, Social, and Intellectual intimacy. In each case, factors or combinations of factors were removed one at a time until the highest R-squared (adjusted) value was reached. The highest R-squared (adjusted) value reached (.313) was obtained in models using the overall PAIR score and the Emotional Scale score. The results of these individual analyses can be seen in Appendix F. The results indicate that while individually not a statistically significant in their association, the following factors or combinations of factors were included in the model and therefore contribute significantly to the R-square (adjusted) value: Personality characteristics (α=.082), Age (α=.055), length of time widowed (α=.047), depression X personality characteristics (α=.110), personality characteristics X age (α= .070), and age X length of time widowed (α=.055). By the design of the model, if any of these factors are removed, the R-square (adjusted) value declines, meaning they all contribute significantly to the highest total value with all factors and combinations possible being considered. This indicates that the dependent variable of satisfaction with intimacy and dependent variables of depression, personality characteristics, age and length of time widowed are related, but not to an extent that all between-subject variation is explained. Furthermore, non-clinical depression and extroversion are positively related to greater overall satisfaction with intimacy; but increasing age and increasing length of time widowed are negatively related to greater level of overall satisfaction with intimacy. The results of the parameter estimates indicating the directions of the correlations for these factors can be found in Appendix G.

Scale Reliability

Chronbach's alpha and item total correlations assessed internal consistency reliability for all measures (see Table 5). Internal consistency was excellent for the Personal Assessment of Intimacy in Relationships and for the Myers-Briggs Type Indicator, Introvert/Extravert Scale, and very good for the Geriatric Depression Scale (short form).

Table 5
Scale Reliability Indices

Measure	Chronbach's Alpha	Range of Item Total Correlations
Geriatric Depression Scale (short form)	.84	.13—.67
Personal Assessment of Intimacy In Relationships	.92	.44—.75
Myers-Briggs Type Indicator, Introvert/Extravert Scale	.92	.17—.68

CHAPTER V

SUMMARY AND EXPLANATION

The purpose of this study was to explore the relationship between depression, personality traits of introversion/extroversion, and level of satisfaction with intimacy in interpersonal relationships with elderly widows. The results indicate that 23.2% of the sample measured was experiencing clinically elevated levels of depression at the time of the study, with a positive correlation between clinically elevated levels of depression and introversion. The results also indicate a statistically significant relationship between depression and satisfaction with intimacy. The sample reported that overall, they felt that their needs for intimacy were being met. The results also indicated that the relationship between satisfaction with intimacy and personality type were less significantly associated, with $\alpha > .05$. A general linear model test of between-subjects effect was run using the overall score on the PAIR intimacy measure and its 4 subscales, all of which were continuous variables. In each model, all variables and combinations of variables were used, and then the least significant variables or combinations were removed one at a time until the highest R- square (adjusted) values were reached. The highest resulting R-square (adjusted) value was .313, indicating that other variables are likely involved in perfectly predicting depression and accounting for the other 68.7% of the between-subject variability.

Summary and Integration of Results

This is an exploratory study looking at the possible association of several factors with depression in elderly widows, as well as to what degree an elderly widow feels satisfied with intimacy in her relationships, and if personality and depression are

associated with that level of satisfaction. To that purpose, the data from this study speaks to the contribution of factors that may indeed affect this population. While there has been little work done in the area of elderly widows, the frequency of depression in this sample was higher (23%) than the estimates of some other previous studies (Harpole & Williams, 2004). As would be expected with personality features that are generally considered stable over time (unless organic deterioration occurs which causes a major change), this sample measured almost equal numbers of introvert and extravert personality types. An unanticipated result of this study was that, overall, participants in this sample were happy with the level of interpersonal intimacy they are experiencing in their lives.

Clearly though, the results of the chi-square analysis indicate that the participants who reported introvert personality characteristics were more likely to report being depressed than what would be expected to find by chance. Likewise, there appears to be a relatively strong association between the participants' level of depression and their satisfaction with the amount of intimacy they have in their relationships.

There still exists a large portion of the variation in the scores that is unexplained by the factors measured. This could indicate that either there are other factors that were not measured in this study that contribute, one or more of the dependent measures used may not be sensitive in a way most helpful to this study, there may not have been enough statistical power for the variable to be recognized for its full contribution, or some combination of all of these things. However, the model used in this study is consistent with rejecting the null hypotheses that introverted and extraverted personality characteristics and satisfaction with current level of intimacy in relationships are not

associated with depression in elderly widows. Although direction of the effect is not indicated, it makes intuitive sense that depression could cause a person to become more introverted, or when placed in an already constrictive environment, a person might be more prone to isolation and depression. Likewise, it makes sense that either of those two factors, along with demographic factors, could affect a person's ability to find intimate relationships that the person finds satisfying, or lack of ability or opportunity to find intimacy in relationships could lead to depression. What seems clear is that these 3 variables, depression, introversion or extroversion personality characteristics, and satisfaction with intimacy are all related and affect each other in some way..

Predictive Model

This study attempted to find a model of factors and combinations of factors to which would explain variability and thereby be able to predict outcome. With regards to these predictive models, no single variable or combination of variables was successful at explaining the variation in scores between the dependent variables. The most effective model at predicting outcome on the overall PAIR score was level of depression, personality characteristic, age, length of time widowed, as well as the interaction between depression and personality, personality and age, and age and length of time widowed. This combination of factors and interaction of factors resulted in an adjusted R-squared value of .313, with 7 degrees of freedom.

In order to reach the highest R-squared (adjusted) value, the model first included all variables and combinations of variables. The variables or interactions were then removed one at a time until the highest R-squared (adjusted) value was reached, leaving the remaining models (see Appendix F for all maximized models using the PAIR and its

subscales). Although the ANCOVA for each variation using the different types of PAIR scores include some combinations that are what appear to be high alpha levels, every variable or interaction by definition is significant, in that removing it from the model lowered the overall R-squared (adjusted) value.

Convergent and Divergent Findings

There are currently no studies that have examined any individual association between the factors of depression, intimacy, or personality among older adults, and very few that have looked at any one of these single factors within elderly widows. However, there are several findings from this study that can be compared and contrasted to other studies.

Harpole and Williams (2004) reported that 5-10% of elderly adults are treated for depression by primary care providers. The authors report that this statistic includes both men and women, and widowed as well as non-widowed. However, in contrast, the sample in this study reported that 23% were clinically depressed. While no previous studies have indicated what the level of depression in this population is, it is clear that the findings of this study are higher than those of other studies using more broad samples. This could be for several reasons. First, while there is no available data for a percentage of depression within the population, the literature does support that elderly widows are more at risk for depression than other groups. Secondly, the environment of an assisted living or independent living facility by nature could be a possible cause of elevated levels of depression in some persons. Often times new residents to a retirement community understandable have difficulty adjusting to the new environment, away from their home, and those who have been residents for a long period of time may have lost

many friends and family members and have restricted access to develop new social relationships.

Furthermore, Körner, Gunzelmann, & Brähler (2003) reported that in a large N survey of the influence of socio-demographic factors on personality, men and women over the age of 60 described themselves as less extroverted than those who were in the 31-59 year old range. The authors also stated that the means of the personality factors, as measured by the NEO Five-Factor Inventory were not associated with age in the over-60 group. This study also did not find an association between age and introversion or extraversion, however the validity data and norm tables offered by the authors of the Myers-Briggs Type Indicator show a very similar distributions between introverts and extroverts between norm groups under 60 and those over 60, differing from the findings of the 2003 study. The MBTI norms do indicate a higher percentage of extroverts than introverts across all age norms, where the findings of this study show almost equal portions between the two types. On reason for the differences between the 2003 Körner, Gunzelmann, and Brähler study and the published norms as well as the findings of this study could be a difference in test construct validity, as well as the very narrow sample selection used in this study.

Explanation of Findings

There are multiple possible explanations for the outcome of this study, based on the results of each factor individually as well as the expected outcomes of the interaction of the factors. A possible explanation for the level of depression in the sample could be the environment in which the participants live. Many of the residents in independent or assisted living communities are away from family or from their homes, and have moved

for the sake of safety, ease, or at the request of family. The same factor of environment may also affect the level of depression found in another way. The Geriatric Depression Scale (short form) contains questions which would be highly dependent on the adjustment of the individual to living in a retirement community. Examples include "Do you prefer to stay home, rather than going out and doing new things?", "Have you dropped many of your activities and interests?", and "Do you often get bored?". These are all question likely to be answered differently if the individual had freedoms and options sometimes afforded when living with relatives or in their own home with help.

The next factor is the sample's reported satisfaction with intimacy, as measured by the Personal Assessment of Intimacy in Relationships (PAIR). This measure should not be confused as a measurement of satisfaction with relationships or with availability for relationships, but strictly as a subjective self-report of if each individual participant feels they have a level of intimacy that is comfortable for them in their relationships, no matter what the source of that intimacy is. Understanding that, it puts into perspective the finding of the overall satisfaction with intimacy that the sample reported. Perhaps some individuals have more or less intimacy than others, but the level is idiographic.

The finding that the variables of depression and personality are associated does not seem illogical. In an already limited environment, where an individual is somewhat removed from established friends, it is imaginable that an elderly woman with an introverted personality style would more easily become removed and isolated from social interaction, and could suffer depression as a result. It is unclear if widowed residents who are introverts are more at risk for depression than non-widowed residents who are introverts, based on the fact that widows are often faced with finding new

friends and social activities after the loss of their spouse. This could make it more difficult for widowed introverts than non-widowed introverts.

Results indicate that the factor of satisfaction with intimacy and level of depression are strongly associated. It is not clear which direction the association is, but again it seems intuitive that these two are linked. It could be that when an individual is depressed, she reports less satisfaction with all aspects of relationships, including intimacy, in a form of negativistic thinking sometimes associated with depression. Or, it is possible that depression is a symptom that stems from the continued loss experienced after a person has lost her spouse, perhaps exacerbated by the factor of environment. In any case, the results of the between-subjects test for effects indicate the interaction between depression and intimacy contributed the most to R-square (adjusted), and was significant at $\alpha < .01$.

The interaction between level of satisfaction and personality characteristics appears in the model with a significance of $\alpha = .082$. While this is still a strong association considering the exploratory nature of the study, there are several reasons why the expected statistically significant relationship was not observed. The relatively small sample size of this study may not have provided sufficient power to indicate a stronger association. Another possible reason might be a lack of sensitivity of either of the two measures, such that the full effect was not picked up through the responses to the measures. Lastly, sample selection could be a contributing factor. For instance, if a participant has an extraverted personality type, but because of environment or opportunity is not able to make use of that characteristic, then extroversion and satisfaction with intimacy in relationships might show less of an association, because the

participant might have a physical or mental impairment that prevents them from having access to other residents with whom they can form relationships that might become intimate. If extraverts cannot capitalize on opportunities to develop relationships in which they can get needs for intimacy met, and introverts might not choose to put themselves in situations where they can capitalize, then it might appear that introversion and extroversion are not associated with the outcome of satisfaction with intimacy. Further investigation with populations outside a controlled environment, such as the ones in this study, are needed in the future to determine if these factors indeed are correlated.

Implications of Findings

The results of this study suggest that introversion or extroversion, level of satisfaction with intimate relationships, and level of depression are related. While this study cannot indicate the nature or direction of the association, these contributing factors could be used as part of an assessment or treatment plan for clinicians, family, or professional caregivers who deal with this population. With further identification of risk variables that are associated with depression in this population through continued research and a more broad population sampling, the necessary information and resources could be used to help prevent and treat depression and improve quality of life for elderly widowed women. Certainly, this study serves to indicate that more research is needed in this area, and further investigation into the mental health issues of this population. With this and further research, mental health providers, physicians, caregivers and family could be provided with training and resources to better deal with issues of depression and social functioning with elderly women. Likewise, elders who lack understanding of

their own mental health and social functioning could be provided with information and assistance.

Limitations

A major limitation of this study was the small sample size. In an exploratory study such as this, larger samples might provide more information about how these factors affect variation in depression and intimacy scores in this population. Likewise, larger samples might allow for broader generalization of findings so they might be more useful to residents, staff, family, and mental health professionals in this field treating residents in these types of facilities. The small sample size in this study also limited the number of variables that could be used in the analysis in order to meet the assumptions of an ANCOVA factor model, thus reducing the usefulness of the resulting models. Also related to the sample size, this study used a sample that was accessible and generally willing to participate in studies. However, for the results to be generalized, future studies might sample a wider variety of living arrangements from the overall population of elderly widows.

Related to the limitation from the sample size is the sample selection. The sample used in this study was one of convenience; however there are some specific limitations, as well as potential benefits, that came from it. For the results of studies in this field to be useful in a practical way, they have to be able to reach a target population. Mental health providers as well as trained facility staff have access to assess and treat assisted living and independent living residents, similar to those used in this study, more readily than for instance an elderly widow cared for by family members who might only be aware of seeking treatment for the elderly family member's physical ailments. With this

sample, there might be more awareness by caregivers about prevention and treatment of mental health and social functioning with elderly widows. However, for the purpose of generalizing results to elderly widows in different residential settings, this sample is limited to high-functioning, higher socioeconomic status (generally associated with higher level of education) individuals who are primarily white.

Another limitation of this study was a lack of a normalization group for the Personal Assessment of Intimacy in Relationships as well as the Myers-Briggs Introvert-Extravert Scale. Likewise, the results are unable to be compared to scores of individuals who are functioning outside of a nursing home or assisted living setting. It is unknown at this time how the factor of the psychological effect of choosing or being forced to live in a residence which focuses on elderly might affect an individual's behavior and response. As a further indication of possible limitations resulting from the use of dependent measures that are not normed for this population, many of the questionnaires that were returned were improperly filled out, had one or more questions that had not been completed, and most interestingly, contained questions that were answered, but where the participant had changed or written in alterations to the question to make the question answerable in a way that the individual felt comfortable endorsing.

An additional limitation involves the potential for participant bias when considering the nature of the questionnaire. Although it was stated clearly in the informed consent that the submitted questionnaires would be anonymous, the potential for participant's self-presentation style to be overly positive, based on the face validity of the questions, did exist.

Future Directions

When the level of prediction, prevention, and treatment capability of mental health care professionals serving the elderly population is examined in the context of how fast the population is growing, it becomes clear that much more information is needed in that area. It is vitally important that more funding and more research be conducted in this area. Kaare Christianson (2001), a Danish researcher and specialist in human longevity, stated:

> The death rate for the oldest old has been cut into half from 1950 to now, meaning being an 80-year-old woman is only half as dangerous today as it was 50 years ago. And there's no evidence that this is slowing down, and the countries who already have the highest life expectancies are experiencing the biggest improvement. If it was so that these countries were pushing up against the limit, you should expect the progress to kind of slow down approaching the limit. However the countries who have the longest life expectancies are making the biggest progress. Also, if you look at the population of centenarians, it is about doubling every ten years, and a record life span in any year for the last 150 years has been steadily increasing, and speed in the record-breaking is on the increase, not on the decrease.

When this idea is examined in contrast to what we know about the social and psychological function of this age group, it becomes clear that more information is needed for families, care givers, and professionals who provide service to the elderly.

This study was exploratory in looking at possible factors that contribute to the problem of depression in elderly women, in a group previously established as having higher rates of depression than non-widowed elderly women. The factor model

identified in this study should be studied further with larger samples, and eventually broadened to include possible other factors such as environmental conditions and demographics, to possibly better explain the variability in the model of what affects depression in elderly women. The model should then be tested in a clinical setting to determine the usefulness as a predictive, diagnostic, or treatment tool.

After many years of little attention to understanding population specific prevention and treatment of depression with the elderly, the problem seems to be gaining research momentum. This will likely result in increased research funding as baby-boomers, a group not unknown in the U.S. for taking action when their well-being is at stake, become more aware of the need for such research.

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APPENDIX A

DEMOGRAPHICS QUESTIONNAIRE

1) What is your Age? **_____**

2) What is your race/ethnicity? Please circle one.

White ***Black/African American***

Hispanic/Latino ***Asian***

Other

3) Have you ever been married?

YES ***NO***

4) If yes, are you currently

Married ***Divorced*** ***Widowed***

5) If widowed, how long have you been a widow?_____

6) Approximately how long have you been a resident here?_____

7) At this time, would you say you feel closest to: (please circle one)

A family member

A staff member

A friend you see regularly

A friend you keep in contact with but don't see often

A Pet

Someone else—please describe how you know them_____

APPENDIX B

GERIATRIC DEPRESSION SCALE, SHORT FORM (GDS-Short)

Please answer "yes" or "no" to the following questions about *how you felt over the last week.*

1) Are you basically satisfied with your life?	Yes	No
2) Have you dropped many of your activities and interests?	Yes	No
3) Do you feel that your life is empty?	Yes	No
4) Do you often get bored?	Yes	No
5) Are you in good spirits most of the time?	Yes	No
6) Are you afraid that something bad is going to happen to you?	Yes	No
7) Do you feel happy most of the time?	Yes	No
8) Do you often feel helpless?	Yes	No
9) Do you prefer to stay home, rather than going out and doing new things?	Yes	No
10)Do you feel you have more problems with memory than most?	Yes	No
11) Do you think it is wonderful to be alive?	Yes	No
12) Do you feel pretty worthless the way you are now?	Yes	No
13) Do you feel full of energy?	Yes	No
14) Do you feel that your situation is hopeless?	Yes	No
15) Do you think that most people are better off than you are ?	Yes	No

APPENDIX C

SCALE ITEMS FROM THE PERSONAL ASSESSMENT OF INTIMACY IN RELATIONSHIPS (PAIR)

I. EMOTIONAL INTIMACY

1. The person I am closest to listens when I need someone to talk to
7. I can state my feelings without him/her getting defensive
13. I often feel distant from my best friend.
19. The person I am closest to can really understand my hurts and joys.
25. I feel neglected at times by my best friend
31. I sometimes feel lonely when I am with my closest friend.

II. SOCIAL INTIMACY

2. We enjoy spending time with other people.
8. My best friend and I usually "keep to ourselves."
14. We have few friends in common.
20. Having time together with other friends is an important part of sharing activities with my closest friend.
26. The person I am closest to and I share many of the same friends.
32. The person I am closest to disapproves of some of my friends.

III. INTELLECTUAL INTIMACY

4. The person I feel closest to helps me clarify my thoughts.
10. When I have a serious discussion with someone I am close to, it seems I have little in common with them.
16. I feel "put-down" in a serious conversation with my closest friend.
22. I feel it is useless to discuss some things, even with the person with whom I am closest to.
28. My closest friend seldom tries to change my ideas about things.
34. The person I feel closest to and I have an endless number of things to talk about.

IV. RECREATIONAL INTIMACY

5. We enjoy the same recreational activities.
11. I share in few of my closest friend's interests.
17. I like playing and having fun with the person I am closest to.
23. I enjoy the out-of-doors with my closest friend.
29. My closest friend and I seldom find the time to do fun things together.
35. The person to whom I am closest shares few of the same interests with me.

V. CONVENTIONALITY

6. My best friend has all of the qualities I've always wanted in a mate.
12. There are times when I do not feel a great deal of love and affection for the person with whom I am the closest.
18. Every new thing I have learned about my best friend has pleased me.
24. Me and the person I am closest to understand each other completely.
30. My closest friend has some negative traits that bother me.
36. I have some needs that are not being me by my current relationships.

APPENDIX D

ITEMS FROM THE PERSONAL ASSESSMENT OF INTIMACY IN RELATIONSHIPS (GRAMMATICALLY ALTERED)

Please respond to the left of the following statements about the way things currently are for you in your close relationships.

0	***1***	***2***	***3***	***4***
Strongly Disagree	***Somewhat Disagree***	***Neutral***	***Somewhat Agree***	***Strongly Agree***

_____1. The person I am closest to listens when I need someone to talk to

_____2. This person and I enjoy spending time with other people.

_____3. The person I feel closest to helps me clarify my thoughts.

_____4. We also enjoy the same recreational activities.

_____5. My best friend has all of the qualities I've always wanted in a mate.

_____6 I can state my feelings without him/her getting defensive

_____7. My best friend and I usually "keep to ourselves."

_____8. When I have a serious discussion with someone I am close to, it seems I have little in common with them.

_____9. I share in few of my closest friend's interests.

_____10. There are times when I do not feel a great deal of love and affection for the person with whom I am the closest.

_____11. I often feel distant from my best friend.

_____12. We have few friends in common.

_____13. I feel "put-down" in a serious conversation with my closest friend.

_____14. I like playing and having fun with the person I am closest to.

_____15. Every new thing I have learned about my best friend has pleased me.

_____16. The person I am closest to can really understand my hurts and joys.

_____17. Having time together with other friends is an important part of sharing activities with my closest friend.

_____18. I feel it is useless to discuss some things, even with the person with whom I am closest to.

_____19. I enjoy the out-of-doors with my closest friend.

_____20. I and the person I am closest to understand each other completely.

_____21. I feel neglected at times by my best friend

_____22. The person I am closest to and I share many of the same friends.

_____23. My closest friend seldom tries to change my ideas about things.

_____24. My closest friend and I seldom find the time to do fun things together.

_____25. My closest friend has some negative traits that bother me.

_____26. I sometimes feel lonely when I am with my closest friend.

_____27. The person I am closest to disapproves of some of my friends.

_____28. The person I feel closest to and I have an endless number of things to talk about.

_____29. The person to whom I am closest shares few of the same interests with me.

_____30. I have some needs that are not being me by my current relationships.

APPENDIX E

QUESTIONS COMPRISING THE INTROVERT/EXTRAVERT SCALE OF THE MYERS-BRIGGS TYPE INDICATOR MEASURE (MBTI)

Directions: Your answers to these questions will help show how you like to look at things and how you like to go about deciding things. There are no "right" or "wrong" answers. Read each question carefully and circle the answer that more closely fits you.

1) Are you usually
   A) a "good mixer", or
   B) rather quiet and reserved?

2) When you are with a group of people, would you usually rather
   A) join in the talk of the group, or
   B) talk individually with people you know well?

3) In a large group, do you more often
   A) introduce others
   B) get introduced?

4) Would you say it generally takes others
   A) a lot of time to get to know you, or
   B) a little time to get to know you?

5) Do you tend to spend a lot of time
   A) by yourself, or
   B) with others?

6) Can you
   A) talk easily to almost anyone for as long as you have to, or
   B) find a lot to say only to certain people or under certain circumstances?

7) Can the new people you meet tell what you are interested in
   A) right away, or
   B) only after they really get to know you?

8) Would most people say you are
   A) a private person, or
   B) a very open person

CHOOSE THE ONE THAT BEST FITS

9) hearty (A) (B) quiet

10) reserved (A) (B) talkative

11) quiet (A) (B) outgoing

12) quiet (A) (B) gregarious

13) open (A) (B) private

14) few friends (A) (B) lots of friends

15) Do you find being around a lot of people
   A) gives you more energy, or
   B) is often "draining"?

16) At parties, do you
   A) sometimes get bored, or
   B) always have fun?

17) Do you usually
   A) mingle well with others, or
   B) tend to keep more to yourself?

18) Are you
   A) easy to get to know, or
   B) hard to get to know?

19) At parties, do you
   A) do much of the talking, or
   B) let others do most of the talking?

20) Can you keep a conversation going indefinitely
   A) only with people who share some interest of yours, or
   B) with almost anyone?

21) In social situations do you generally find it
   A) difficult to start and maintain a conversation with some people, or
   B) easy to talk to most people for long periods of time?

APPENDIX F

RESULTS OF ANCOVA USING TOTAL AND INDIVIDUAL SCALES FROM THE PAIR AND ALL OTHER VARIABLES

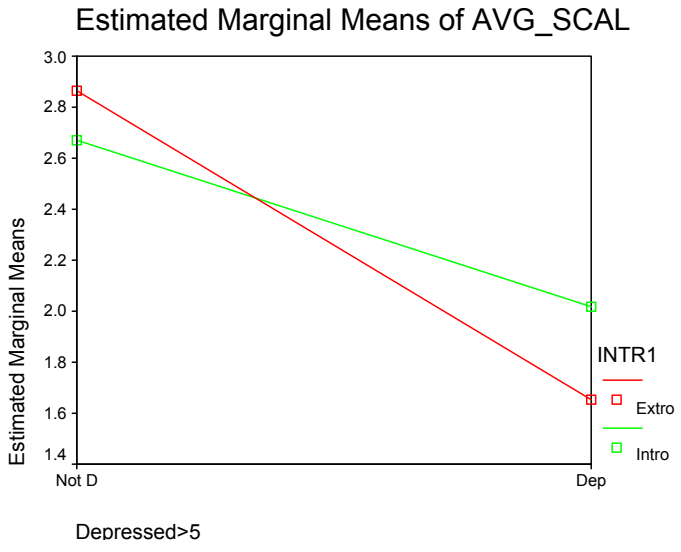
Total PAIR Score with variables for highest R Squared (adjusted) value:

Tests of Between-Subjects Effects

Dependent Variable: AVG_SCAL

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	13.688[a]	7	1.955	6.347	.000
Intercept	7.050	1	7.050	22.884	.000
DEPRE1	8.774	1	8.774	28.483	.000
DEPRE1 * INTR1	.806	1	.806	2.615	.110
INTR1	.956	1	.956	3.104	.082
INTR1 * AGE	1.041	1	1.041	3.380	.070
AGE	1.166	1	1.166	3.786	.055
AGE * WIDOWED	1.168	1	1.168	3.790	.055
WIDOWED	1.260	1	1.260	4.090	.047
Error	23.105	75	.308		
Total	608.146	83			
Corrected Total	36.792	82			

a. R Squared = .372 (Adjusted R Squared = .313)



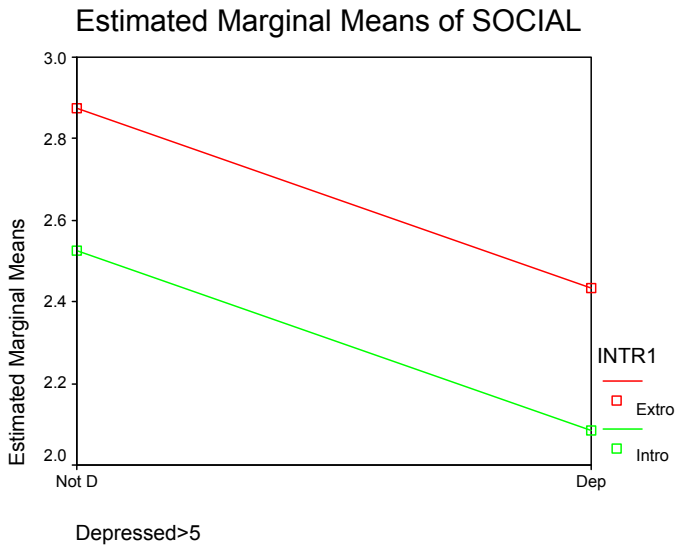
PAIR Social Intimacy Scale with variables for highest R Squared (adjusted) value:

Tests of Between-Subjects Effects

Dependent Variable: SOCIAL

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	10.852[a]	5	2.170	4.552	.001
Intercept	4.761	1	4.761	9.983	.002
DEPRE1	.952	1	.952	1.997	.162
DEPRE1 * AGE	.613	1	.613	1.286	.260
INTR1	2.125	1	2.125	4.456	.038
INTR1 * AGE	1.691	1	1.691	3.546	.063
Error	36.719	77	.477		
Total	613.167	83			
Corrected Total	47.571	82			

a. R Squared = .228 (Adjusted R Squared = .178)



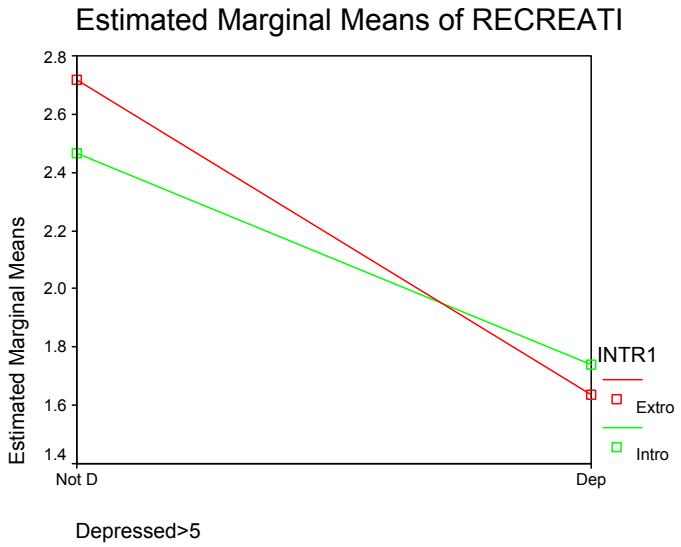
PAIR Recreational Intimacy Scale with variables for highest R Squared (adjusted) value:

Tests of Between-Subjects Effects

Dependent Variable: RECREATI

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	15.340[a]	6	2.557	5.365	.000
Intercept	8.177	1	8.177	17.159	.000
DEPRE1	8.178	1	8.178	17.160	.000
DEPRE1 * INTR1	.961	2	.481	1.009	.370
AGE	1.800	1	1.800	3.778	.056
AGE * WIDOWED	1.317	1	1.317	2.764	.101
WIDOWED	1.538	1	1.538	3.227	.076
Error	36.217	76	.477		
Total	542.361	83			
Corrected Total	51.558	82			

a. R Squared = .298 (Adjusted R Squared = .242)



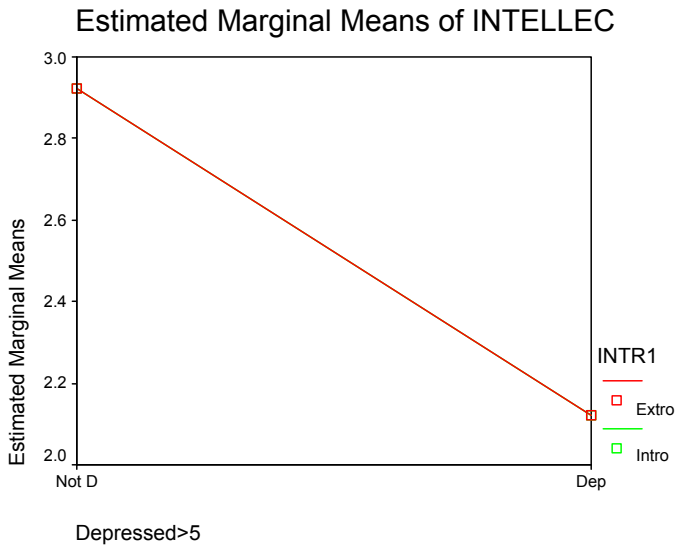
PAIR Intellectual Intimacy Scale with variables for highest R Squared (adjusted) value:

Tests of Between-Subjects Effects

Dependent Variable: INTELLEC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	13.025[a]	4	3.256	7.389	.000
Intercept	9.748	1	9.748	22.120	.000
DEPRE1	9.416	1	9.416	21.366	.000
AGE	1.693	1	1.693	3.843	.054
AGE * WIDOWED	3.076	1	3.076	6.981	.010
WIDOWED	3.536	1	3.536	8.024	.006
Error	34.373	78	.441		
Total	685.487	83			
Corrected Total	47.398	82			

a. R Squared = .275 (Adjusted R Squared = .238)



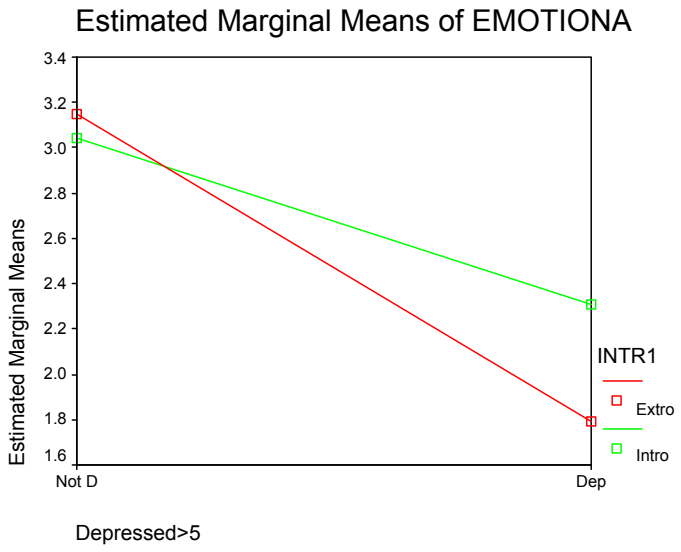
PAIR Emotional Intimacy Scale with variables for highest R Squared (adjusted) value:

Tests of Between-Subjects Effects

Dependent Variable: EMOTIONA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	23.395[a]	8	2.924	5.669	.000
Intercept	11.008	1	11.008	21.340	.000
DEPRE1	12.609	1	12.609	24.444	.000
DEPRE1 * INTR1	.983	1	.983	1.906	.172
DEPRE1 * WIDOWED	1.767	1	1.767	3.426	.068
INTR1	1.458	1	1.458	2.826	.097
INTR1 * AGE	1.708	1	1.708	3.311	.073
AGE	3.005	1	3.005	5.826	.018
AGE * WIDOWED	2.610	1	2.610	5.059	.027
WIDOWED	2.047	1	2.047	3.968	.050
Error	38.171	74	.516		
Total	762.306	83			
Corrected Total	61.566	82			

a. R Squared = .380 (Adjusted R Squared = .313)



APPENDIX G

PARAMETER ESTIMATES

Dependent Variable: PAIR Average

Parameter	B
Intercept	2.714
Not Depressed	.653
Depressed	0(a)
Extrovert	1.749
Introverts	0(a)
Not Depressed * Extravert	.559
Not Depressed * Introvert	0(a)
Depressed * Extravert	0(a)
Depressed * Introvert	0(a)
Age	-.007
Extravert * Age	-.026
Introvert * Age	0(a)
Length of time Widowed	-.107
Age * Length time widowed	.001

a This parameter is set to zero because it is redundant.

VITA

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